

1920

THE

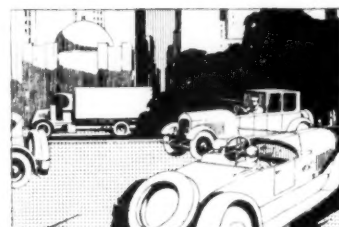
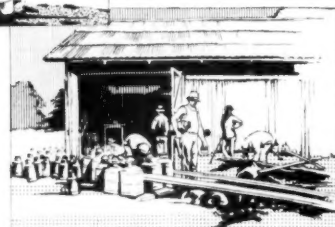
JUN 24 1920

25 Cents

NATION'S BUSINESS



Published by the Chamber of Commerce of the United States



From the Jungle to the final mile
— and the sole aim is the
longer, better service of

United States Tires

THOUSANDS of acres of jungle-land in Sumatra have been transformed into flourishing rubber plantations in order to serve the best interests of buyers of United States Tires.

The tropic jungle has been hewn away, rubber trees planted by the millions, methods and machinery installed for the collection, cleaning and baling of rubber of the high quality required for United States Tires.

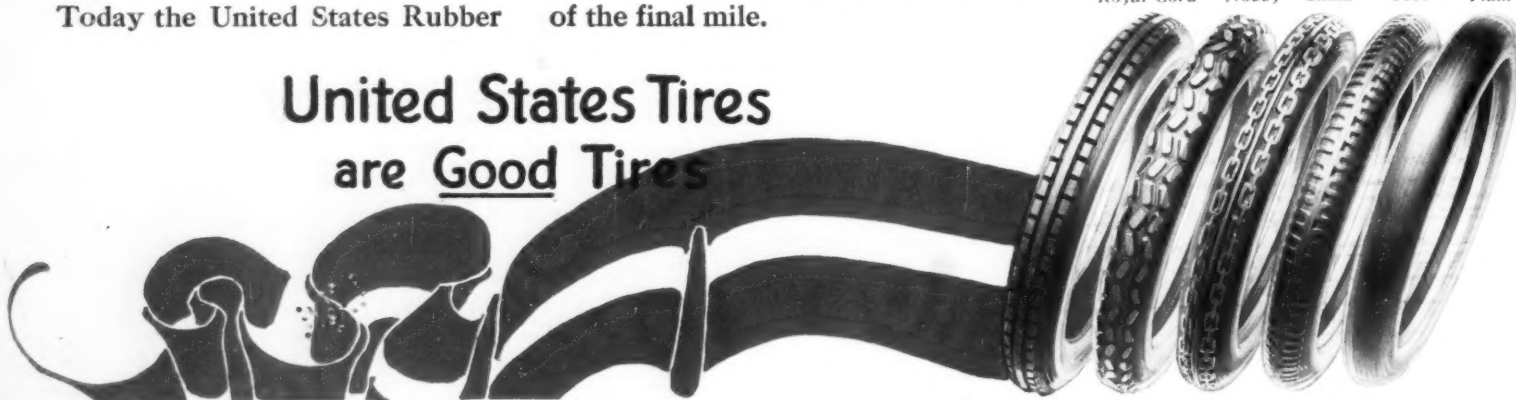
Today the United States Rubber

Company is the only rubber manufacturer controlling its own rubber supply in any large degree. The substantial and vital advantages in quality which ensue, are for the good of the users of United States Tires.

An army of specialists stands guard over every step of manufacture. United States Tires are good tires because their ultimate goodness is considered from first to last. The user *must* be pleased to the end of the final mile.



United States Tires
are Good Tires



'Royal Cord' 'Nobby' 'Chain' 'Usco' 'Plain'

THE NATION'S BUSINESS

A Magazine for Commerce Business Men

Vol. 8, Number 1

JANUARY, 1920

As We Face the New Year

A horoscope of the troublous situation confronting business and the nation brings out comforting assurance that Isaiahs who see ruin and dissolution are usually disappointed

By ARCHER WALL DOUGLAS

IN the good old days, not so long ago, when our business relations with the rest of world, especially Europe, were viewed largely from a political standpoint, we were constantly assured by politicians in the guise of economists, wolves in sheep's clothing, that the most fortunate happening to any nation was to have the balance of trade constantly in its favor. For only by this means could a nation be assured of continuing prosperity.

Well, we have arrived at that delectable state, and not only do we not like it, but we find it very embarrassing and a very distinct menace to our present abnormal prosperity. In truth, Europe already owes us so much money, that not only is she unable to pay the principal, but has asked to be allowed to let the interest run along to such time as she finds herself in better shape.

Now We're Walking the Floor

IT is we who are walking the floor now, and not Europe. It may temporarily relieve the situation to extend further credits to the debtor nations abroad. But that is only an expediency at best, and merely increases the burden in the long run.

Europe has no gold to spare wherewith to liquidate her debts to us. Also the sale of European securities to the American public in any large and sufficient volume is going to be a long and painful process, and the situation cannot afford to wait any great length of time to be remedied. So we find ourselves much in the plight of Mark Twain in a story he wrote where he got his heroine into an impossible situation and saw no way to rescue her. Only we cannot do with Europe as he did with his heroine—wash his hands of the whole affair and leave it to someone else to finish the story. In all seriousness, there are a very large number of thoughtful men in this country who feel that the European situation is so desperate that it may portend the break-up of our modern civilization, and the long drawn out period, first of anarchy and decadence, and then of reconstruction such as marked the fall of Rome and all the great civilizations of the past.

Fortunately prophecies of woe, while plentiful enough, do not usually stack up with subsequent events. In fact, they are much like those elaborate mathematical forecasts of cycles of business occurrences which always fall down at critical moments.

What is actually happening is that Europe is trying hard to get on her feet again, and in

Why the Doleful Music?

WOE, woe, woe! Professional and private pessimists assail us in the prints and in personal conversation with all manner of lugubrious forecasts. There are those who proclaim seriously that the world is facing an overturning of our present civilization to be followed by a period of chaos such as came after the fall of Rome. There is a possibility that they may be disappointed. Economic ills have a disconcerting way of curing themselves. Scientists claim that the sunlight is just as bright as it was before the war. And Mr. Douglas shows here that there is considerable possibility of the future bringing other things besides adversities.—THE EDITOR.

this she is assisted, in a most apparently contradictory way, by that very debt she is unable to discharge. This constantly increasing balance of trade in our favor means, of course, an equally steady depreciation in the rate of foreign exchange. The German Mark, which before the war was worth about twenty-four cents in our money, is now worth about two cents, or about ninety per cent depreciation. Under such conditions of exchange Germany cannot afford to buy from us, even if she had either the money or the credit, so she is endeavoring to do the only thing left—sell her goods abroad and thus pay her debts with her products.

And this is where our troubles begin with any of the European nations whose exchange is at a large discount. Such a country can afford to import raw material at high figures, including the cost of exchange, and still sell the resulting finished product at lower prices than we can afford to make. The reason is, taking Germany as an example, that although prices of all commodities, of labor, and of everything else, have risen to hitherto unknown figures in Germany because of the depreciated currency, yet such advances are not as great in proportion as the depreciation in currency. In other words, every such country is a good place to buy in, but a very poor place to sell to.

Now under these conditions our exports should decrease and our imports increase, though as a matter of fact they have done nothing of the sort, and anyone who attempts to analyze the export figures of the past twelve months will not get any definite trend from them. But it seems inevitable that we must soon begin to buy more from Europe and sell less to her. That in turn means that a larger proportion of our production will be available for the domestic demand. This further forecasts lower prices, which always spell lessened demand and a slowing up in the business pace.

Now there are lots of things in life which are perfectly logical and are yet principally remarkable for not being so. For there are no apparent signs of any immediately coming change in the present business situation, nor is the public mind in general very much concerned about the European situation, not yet recognizing the gravity of the issue.

Labor troubles and strikes continue to make for scarcity of goods. The buying power of the money seems unchecked. Whatever may be the portents of trouble, the end is not yet in sight.

Coal mining has always been the stormy petrel in the industrial world. There is "something rotten in Denmark" in a business—absolutely vital to the interests and life of the country, which is so constantly out of joint in the relations of supply and demand.

In most seasonable commodities there have been worked out between manufacturer and distributor intelligent methods of warehouse storage and of distribution which take the goods to the consumer when he needs them. It is the failure to properly function, as in the present instance, which is largely responsible for that unthinking demand for government ownership as the only solution of a constantly irritating economic problem.

There is one profound truth, however, which is becoming evident as a result of the present calamity—nothing less, in fact, than the unmistakable public determination that the right of the people, as expressed in the government, is above all to all class distinction and all class selfishness.

As to the Crops

THERE has been in general too much rain for such crops as are not yet harvested. Also it has prevented further seeding of wheat, so the winter wheat acreage is much less than a year ago. The abnormal incentive
(Concluded on page 50)

The Trusts of Merrie England

Our wielders of the muckrake should take notice that England is overrun with monopolies and that instead of fighting 'em, they're encouraging the darn things!

By GEORGE T. BYE

London Representative of The Nation's Business

BEFORE these lines are cold in type Parliament will have reconvened and it should be known just what pro-trust legislation the government will have introduced for the cogitation of its so-called Tory or big-business majority.

That the legislation will be pro-trust may safely be forecast from the report of the Ministry of Reconstruction's Committee of Trusts, including socialist economists in its membership, which agreed without dissent that the competitive system in business had broken down and that a new order of great non-competitive combinations would be for the public good if kept under surveillance.

This surveillance, no doubt, will take the form of a Tribunal of Investigation of His Majesty's Board of Trade, invested with plenary powers of inquiry and authority to publish the evidence if at any hearing it should be proved that a trust has committed offenses injurious to the public interest.

This proposed copy of the Federal Trade Commission will have no Sherman or Clayton Anti-Trust Acts to limit the legality of trust organization and operation. No such acts are in contemplation. There is an act which forbids commercial conspiracies against the public interest, but *there has never been a prosecution under it*. The tribunal will have for precedents the past practices in British business where price-fixing and output restricting agreements are not only considered respectable; it is recognized that such compacts are the reason for life of manufacturing, shipping and selling associations! And to be a much interlocked director is the ambition of every great British captain of industry!

It's Quite All Right

IS this shocking? In Turkey a native may have as many wives as he can endure, but he may not eat pork, the flesh of an unclean beast; or wear silk, the product of an unholy worm; or organize any sort of a monopoly. In Great Britain more than one wife brings a man the additional annoyance of going to jail, but he may fill himself with pork and wrap himself in silk—even as in America—and enjoy also the quite peculiar recognized custom of combining with agreeable friends to juggle prices and output monopolistically—on paper or by gentlemanly understanding—and to ally dissimilar industries for the particular profit of one by becoming a preponderating director in all of them. Even the peerage does it.

No doubt the courtesies which combination enjoys in Great Britain come down from the remote time of monopolies granted under royal patent, which, though repugnantly abolished by Parliament, and no longer under a charter by divine right, continue to be kissed by a grace that is not of this world.

Next to the French state match

monopoly, there probably is no more complete sew-up of one industry than that of the spinning of thread by Messrs. Coats, Ltd., of Great Britain. But they had better look to their spools. Lord Leverhulme, of Lever Brothers, is making the suds fly in the junction of practically all the soap interests of the British Isles, including such well-known brands as Pears', Sunlight, Lux and others. And, quoting from the Committee on Trusts report, "the production of chemicals in this country is almost wholly in the hands of two great consolidations. In the electric industries there is an association of businesses of a different nature with a total capital of £33,000,000. In soap, tobacco, wallpapers, salt, cement and in the textile trades there are powerful combinations or consolidations of one or another kind which are in a position effectively to control output and prices."

Trusts Heart-Whole and Care-Free

WHY is it that one hears only of "trust-ridden America" and never of the law-free and heart-whole British combinations? The answer either is, (1) a muck-raker may serve other purposes besides earning a living; or, (2) it does not pay to advertise. Again acknowledging indebtedness to the British Committee on Trust reports (which was not, as may be erroneously believed, partly prepared or touched up by the staff of *Punch*), one reads in the secretary's digest of evidence:

"British trade associations make little parade of their existence or achievements, but there are few corners of British industry in which some kind of trade association is not to be found, and some of them can show a thoroughness of organization not easily surpassed. What is remarkable among British consolidations and associations is not their rarity or weakness so much as their unobtrusiveness. There is not much display in the window, but there is a good selection inside."

In the course of a brief inquiry I applied to several government sub-departments concerned with commerce. At first I whispered

my questions, not wishing to offend, but before long realized that a vocal *fortissimo* was quite in order. Of course it was true, they said, that all the potential trust evils I hinted at lay within the possibility of daily practice, but they had not yet become a great public menace. The recent Profiteering Act Department of the Board of Trade was a safeguard of the moment. The Profiteering Act Department had powers and intelligence; in fact, it is the department which has drawn up the government measure which I persist in calling pro-trust legislation.

These sub-departments, among them the Committee on Trusts of the Profiteering Act Department, unanimously recommended an interview with Mr. John Hilton, who, they said, would be able to speak more freely and more advisedly on the subject than any other man in the United Kingdom. So it was that an appointment was obtained with Mr. Hilton, and an hypothetical question put to him that should decide whether the American system of trust regulation were preferable to the British lack of system. This was the great question:

Just Supposin'

"**S**UPPOSING you were a trust magnate, Mr. Hilton, whose one penchant in life was the merging of great concerns for the profit of the mergee: Where would you rather operate, in Great Britain or the United States?"

"Speaking for myself, where it would be to the greatest economic advantage of my companies."

"Yes, but I meant my question to imply that you were a heinous trust manipulator, although not found out, and that even you yourself would construe your ambitions as more or less shady."

While Mr. Hilton is thinking, we will explain that he was the secretary of the Committee on Trusts of the Ministry of Reconstruction, from whose report to Parliament we have been quoting (and which was briefly digested in *THE NATION'S BUSINESS* for September). He is a high official of the intelligence department of the Ministry of Labor and is one of the greatest authorities on industrial combination in Great Britain.

"It is true," he said, "that we have no anti-trust laws here such as you have in the United States. It has not been necessary and I am against it today. It seems to me that we should encourage business combinations to expand and develop without restraint. Combination is the tendency of the times. If it is hampered or bound I believe vicious secret practices would break out."

"But wouldn't this result in Great Britain becoming the playground of schemers against the public interest?"



"No, I don't think so. We are a definitely law-abiding people, you know. I do not mean to say that we haven't as many citizens to whom crooked plans occur as any other nation, but the Briton prefers to stay on the side of the law. That is our chief protection. We stay on the side of the law, and our law in this matter of combinations is that a trade association shall not conspire against the public interest."

"Have there been any prosecutions under this law?"

"None, I believe. No doubt some have been warranted in past years, and would have been undertaken but for fear of bringing down a hornet's nest on our heads. You see, in our law a commercial association has the same nature as a trade union. If any precedent were created for interfering with the wrongful practices of an association of firms, it would be effective against a workers' association."

Mutual Protection

"CAPITAL and labor therefore have protected each other in the face of the law?"

"As I have said. It should be remembered that another factor in preventing any unjust price-fixing or restraint of trade in the past has been the intense individualism of the British business man. For years he obstinately refused to merge his identity in any larger concern. He was satisfied with his business as it stood and he meant to see that it remained distinct and vigorous in its limited field. An infant British trust had many, many stout-hearted small competitors to keep it in the straight path, who haughtily refused its attractive offers to combine and who saw that vigorous and wholesome competition was kept up."

"Now even this individualism is broken down. The spirit of organization is in the air. There is little resistance in this country in the tendency toward combination and its assurance of economical management and efficiency. It is a sound tendency, and any weaknesses in it should be correctible by inquiry and publicity. While the proposed tribunal would have no punitive powers beyond compelling the appearance of witnesses and the production of evidence, there is no doubt that a gross scandal would get into the courts."

This is hard for me to understand. In America I had grown to understand that great combinations had no soul, but in Britain they have soul, conscience and ears with which to hear public reproach. It is the human way they have of doing things here. Humans go about their humanizing until they run against something hard and inhuman, then the emergency is handled in a human way, then more humanizing until the corrective is outgrown.

In America we are all part of a strictly regulated orchestra. We are told what piece we are to play and given our notes, which is our law and which most of us memorize so that we may look over our fiddles and cornets to the baton of our conductor, the government. But in Britain's national orchestra the players look only once at their conductor, waiting for an expression of policy, which is the piece to be played. Then by ear each toots, fiddles and strums to his own time, and with his own interpretation of cadences, often accidentally attaining glorious and undying harmonies,

but quite often eking out a murderous cacophony that soon, however, is straightened out into tune by the good-natured and zealous instrumentalists.

The fact that the socialists on the Ministry of Reconstruction's Committee on Trusts attached their signatures to the unanimous report need not raise eyebrows too high. When either a moderate or extreme communist agrees that big business combination is a tolerable proposition, needing only a little probing and newspaper antiseptic now and then—if you ever hear a sincere socialist say that or read of him saying that, by all means lose no time in consulting the nearest aurist or oculist.

Nor was their assent an insidious move to bring about the amalgamation of all trades and industries into a few integral groups to make their socialization easier. British socialists are honest men, and these deep-minded economists among them signed the report because "we find nothing to disagree with in its recommendations."

However, they felt that it fell short in limning the gravity of the situation. In an addendum report they "do not suggest that any action should be taken to prevent or obstruct combination or association in capitalist enterprise. Apart from the experience that no such interference can be made effective, we have to recognize that association and combination in production and distribution are steps in the greater efficiency, the increased economy, and the better organization of industry. We regard this evolution as both inevitable and desirable. It is, however, plain that the change from competitive rivalry to combination calls for corresponding developments to secure for the community both safeguards against the evils of monopoly and at least a large share of the economic benefits of the better organization of industry which it promotes."

The socialists then recommend that profiteering might be kept in check, "without preventing the better organization to be obtained by combination, by the existence of a rival who cannot be persuaded to enter the combination, and who can be relied upon to serve only the public interest. The Co-operative Movement, which returns to its customers in proportion to their purchases all the surplus that it makes over cost, serves incidentally as a check on profit-making combinations, into none of which will it ever consent to enter. The national factories have been found by the government extremely valuable in this respect during the war. If they could be continued in peace for the production of certain essential commodities, for the protection of the public of consumers,

their value in serving as a check upon capitalist combinations might be considerable."

Important attention is given by the socialists to imports also serving as a check on profiteering, "so long as the foreign producers are not brought within the combination. Whilst the imposition of import duties would increase the power of combinations to raise prices, 'Free Trade' is not, in itself, a complete safeguard against it." And they find no comfort in excess profits duties which make the state a party criminal in overcharges. "It would be far more profitable to the community (and, therefore, also to the Exchequer) if there were no excess profits to tax." They favor precise cost systems. They recommend the transfer to the Co-operative Movement or to municipal ownership of combinations, "largely monopolistic in structure and powers, and tending to restrict output with a view to raising prices or preventing their fall."

Ernest Bevin, J. A. Hobson, W. H. Watkins and Sidney Webb are the signatories to the addendum report.

There Is a Chill in the Tone

IT should not be mistakenly understood that the main report, which I have described as a pro-trust report, gives British combinations a clean bill of health. Far from it. Without calling anybody a dirty crook, and with a certain naive coldness, it describes purposes and usages of great combinations in Great Britain that would be regarded in America as High Crimes somewhere between mayhem on the body of the Golden Goose and grand larceny.

Yet we find under "Dangers of Combinations" that there is no hope to be had from legislation to curb the too powerful organizations which exact monopoly prices from the public, because in America the anti-trust laws have only served to encourage great amalgamations or have driven the combinations underground!

Under "Types of Combination" the report defines those that are for other purposes than trade regulation—employers' federations, chambers of commerce, for example—and those commonly existing for trade regulation, such as combinations by honorable understanding, associations for the regulation of output, the pool system, the combine, the consolidation, interchange of shares, interlocking directorates, merchants' alliances, multiple shop system, licensed trade "Tied-House" system, bank amalgamations, shipping rings and conferences.

"The simplest (though not necessarily the most primitive) type of combination is that which occurs where a number of manufacturers or traders, who otherwise would be competitors," says the report, "meet from time to time and arrive at an 'honorable understanding' or 'gentleman's agreement' in regard to prices, output, division of business, etc. Such arrangements are essentially informal and temporary. There are no documents; there is no association; there is no bond except that of good faith. While 'understandings' may serve a useful purpose in restraining cut-throat competition and avoiding the over-lapping of services, they more easily lend them-

(Continued on page 83)



Carnegie's Way

The great ironmaster enlisted in his service the skilled men of his trade and he brought out the best that was in them by methods that other executives might follow

By CHARLES M. SCHWAB

IT IS nearly forty years since I first knew Mr. Carnegie. As a boy I met him when he sojourned in the Allegheny Mountains for his summer outings, and I little thought at that time, when I did trivial services for him, that fate in later years would so intimately throw our lives together.

Even in those early days his personality was such as to inspire one, whatever his station, to better efforts and to an appreciation of the finer things in life—not by what he may have said to you, not by what he may have written or spoken, but just by the tender attitude of a strong personality.

Never before perhaps in the history of industry has a man who did not understand the business in its working details, who made no pretence of being a technical steel manufacturer, or a special engineer, built up such a great and wonderfully successful enterprise as did Mr. Carnegie. It was not because he was a skilled chemist, or a skilled mechanic, a skilled engineer, or a skilled metallurgist; it was because he had the faculty of enlisting people who were skilled in those arts.

While it may be an easy thing to enlist the interest of such men, it is quite a different thing to get their best efforts and loyal support. In that Mr. Carnegie was paramount over all men that I have ever known.

The Secret of It

THE tremendous results which Mr. Carnegie secured were always obtained through a spirit of approval and never of criticism. Mr. Carnegie was always one to take you by the hand and encourage and approve. It was the rarest thing in the world to hear him criticise the actions of others, especially in a business sense.

How every man responds with his best efforts under such conditions! In my wide association in life, meeting with many and great men in various parts of the world, I have yet to find the man, however great or exalted his station, who did not do better work and put forth greater effort under a spirit of approval than he would ever do under a spirit of criticism.

Many years ago when I was manager of the Braddock works, at a time when money was not too plentiful in the Carnegie company, I had asked permission to put up a new converting mill and it had been built. It was everything I expected it to be, everything I promised Mr. Carnegie it should be, and he came out to Braddock to see it.

As I was showing him around the works and explaining the new mill he looked into my face and said: "Charlie, there is something wrong about this. I can see by your expression that you are disappointed. There is something wrong with this mill."

I said: "No, Mr. Carnegie, it is just exactly what I told you it would be and we have reduced our cost to the point that I said we would. But if I had it all to do again there is one thing which has just recently been discovered that I would intro-

duce here, and that I am sure would result in further economy."

He said: "Well, what does that mean? Can you change this work?"

I said: "No, it would mean tearing this down and rebuilding it."

"Why," he said, "then that's the right thing to do. It's only a fool who will not profit by anything that may have been overlooked and discovered after the work is done. Tear it down and do it again."

And although that converting mill had been running two months we did tear it down and we did rebuild it, and the return upon the capital thus expended repaid the great firm many fold.

The Mill That Was Rebuilt

THAT spirit was characteristic of Mr. Carnegie. He did not say in criticism, "Why didn't you think of this before?" If he had been that type of man, who would say that sort of thing to me or to any manager, he would never have learned of this new idea that had developed, and as a result the firm would not have reaped the benefit of the better mill. But that is the way Mr. Carnegie inspired us all.

Another phase of his character was thoroughness, and that may be illustrated by this, which shows how his mind worked all around a subject. In those olden days when perhaps we had a profit statement which showed that the firm had made five or six hundred thousand dollars in a month, or possibly more, and I would go to him with pride and say, "Mr. Carnegie, we have made \$500,000 this month," it would not be a spirit of gratification alone that he manifested.

He would say: "Show me your cost sheets. It is more interesting to know how cheaply and how well you have done this thing than how much money you have made, because the one is a temporary result, due possibly to special conditions of trade, but the other means a permanency that will go on with the works as long as they last."

One Thing He Didn't Tolerate

DURING the great war the one spirit that seemed to animate every man, no matter how great his station in life—and indeed the greater or the more aristocratic that was, the more he tried to live up to it—was the spirit of democracy. Mr. Carnegie all the years of his life was the simple democrat that we preach of today. He never had a particle of snobbishness in his character, nor could he tolerate it in others.

He numbered among his friends not alone the great and the rich and the powerful of the world, but the honest working man and woman in any capacity who was truly doing the best possible in a straightforward way to accomplish something.

Among Mr. Carnegie's best friends were those he made in business. He had no weak sentiment as to business, but he believed that it was best accomplished under happy conditions. A certain picture used to hang on the

wall in the directors' room of the Carnegie mill.

It seems that some criticism was made that it was not sufficiently dignified for the place. That reached Mr. Carnegie's ears and he sent the picture to me and said, "Hang this in your room." It was a picture of a jolly old monk who owned nothing but the robe on his back. Mr. Carnegie added, "Any time that you feel blue or inclined to be despondent just look at this old monk's happy countenance and your depression will disappear."

He used to say, "Always remember that good business is never done except in a happy and contented frame of mind." That was Mr. Carnegie's philosophy; that is the way he acted with all of us boys, and that is the reason we loved him so much.

Mr. Carnegie has not departed, except in the body; his influence and the imprint that he made on the minds of all of us live with us today just as strongly as ever. He was a great man among men. He has left his influence and the force of his personal philosophy upon thousands, not because of his great business ability nor his vast philanthropies, but because of the ideals that he practiced and that he set for every man who has his life to live.

An Industrial Court

AN industrial court is England's latest provision for dealing with industrial disputes. Under legislation brought forward in Parliament early in November, this court will be a permanent body succeeding the court of arbitration set about a year ago when a law prohibited for a year any decrease in the wages paid at the time of the armistice. The arbitration court in turn had succeeded the Committee on Production, which had been the principal tribunal for industrial questions during the period of hostilities.

The prohibition against decreases in wages has now been extended to September 30, 1920, and the Industrial Court will have functions in deciding questions about wages. It will also be expected to follow the successful career of its predecessors in settling disputes of other sorts in the field of industrial relations.

In this direction the Industrial Court will not be the sole agency. Under the new legislation, the Minister of Labour may appoint courts of inquiry, with power to summon witnesses and obtain documents, to ascertain the causes and circumstances of trade disputes, and make authoritative announcements to the public.

The original draft contained provisions intended to compel obedience to the decisions of the Industrial Court. Compulsion was to be laid upon employers and employees, and unions were to be forbidden to support any of their members who were disobeying the court. To these provisions employees objected, and the clauses imposing penalties were dropped from the bill.

In Harness

By BENJAMIN OGDEN WILKINS

OVER the valleys, so lazily swinging,
Drowsily drifting, I roam out of reach
Gathering moisture while rivers go singing,
Taking my toll from the waves on the beach.

Touching the chill of the air in the mountains,
Swiftly I drop to the fields and the hills
Bringing new life for the springs and the fountains,
Filling dry furroughs with gay little rills.

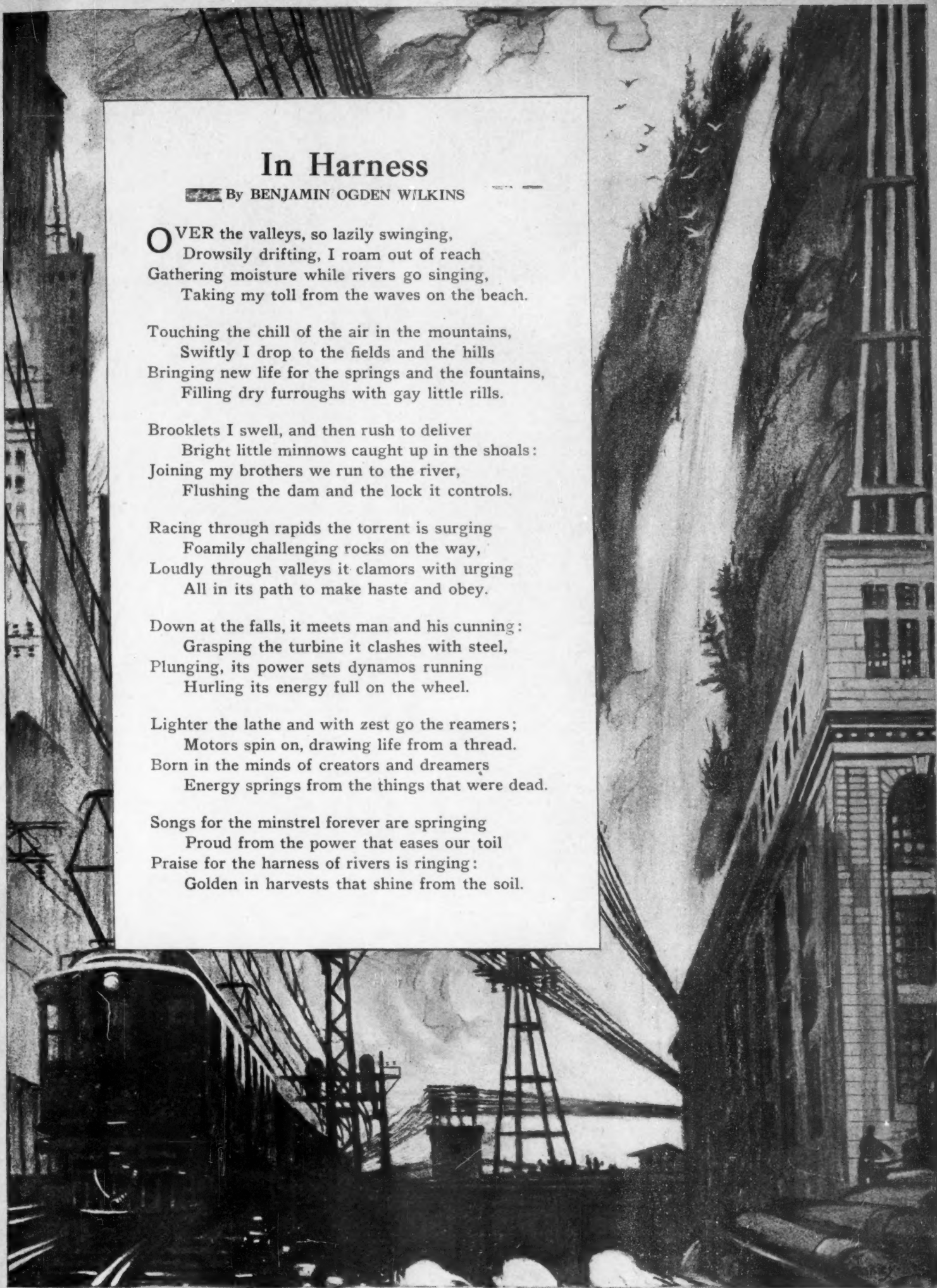
Brooklets I swell, and then rush to deliver
Bright little minnows caught up in the shoals:
Joining my brothers we run to the river,
Flushing the dam and the lock it controls.

Racing through rapids the torrent is surging
Foamily challenging rocks on the way,
Loudly through valleys it clamors with urging
All in its path to make haste and obey.

Down at the falls, it meets man and his cunning:
Grasping the turbine it clashes with steel,
Plunging, its power sets dynamos running
Hurling its energy full on the wheel.

Lighter the lathe and with zest go the reamers;
Motors spin on, drawing life from a thread.
Born in the minds of creators and dreamers
Energy springs from the things that were dead.

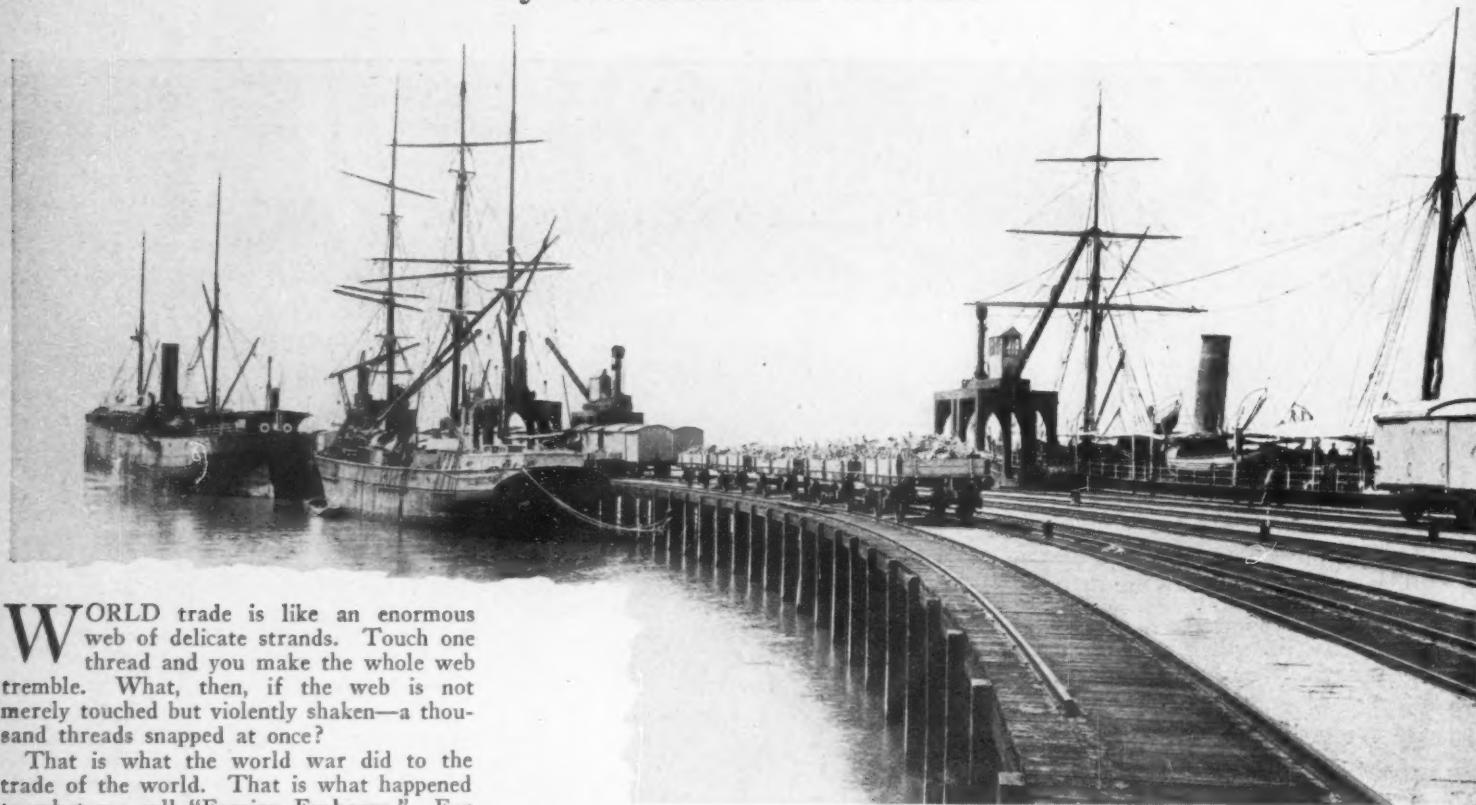
Songs for the minstrel forever are springing
Proud from the power that eases our toil
Praise for the harness of rivers is ringing:
Golden in harvests that shine from the soil.



The Exchange See-Saw

It is a very intricate and delicate instrument that takes care of trade balances between nations; just now it is struggling hard to adjust itself to the disjointed conditions

By WILLIAM R. BENÉT



WORLD trade is like an enormous web of delicate strands. Touch one thread and you make the whole web tremble. What, then, if the web is not merely touched but violently shaken—a thousand threads snapped at once?

That is what the world war did to the trade of the world. That is what happened to what we call "Foreign Exchange." For the subject of Foreign Exchange covers all our buying from and selling to other countries. The moment a business man of any country enters into a trade transaction with a business man of another country he involves himself in Foreign Exchange, for he faces the fact of how and when he is to be paid for the goods he has sold or to pay, in turn, for the goods he has bought.

And all business between one country and another involves the eventual consideration of how much actual gold is to cross the seas—and how often—in order to strike a true balance between all the credit transactions involved.

Banks are the intermediaries of all exchange of goods for money. In both domestic and foreign exchange they facilitate three things: first, the securing of immediate payment for his goods by the man who is selling, without his having to wait until they reach their destination subject to all the delays of shipment and remittance; second, the purchasing of the buyer, allowing him time to receive and dispose of his purchase before he actually has to foot the bill; third, the cancelling out of credits on one side of the ocean against credits on the other side, thus making unnecessary money shipments to cover every transaction, which would be an onerous and hugely clumsy way of doing business.

This cancelling out of balancing transactions—as a clearing-house balances checks against each other—is foreign exchange reduced to its simplest terms. The process may, of course, involve many countries—the web spreads its network over the whole

world. But by making international transactions easy and handling them at such speed in such quantity, the banks supply an effective lubrication for the world's trade.

Now, how is a definite, concrete transaction made?

Let us suppose that Selfridge's, of London, buys from Armour & Co., in the United States, £10,000 worth of soap. It is obvious that Selfridge would not send bullion in payment. The bother and freight cost on the gold, to say nothing of the clumsiness, slowness and risk of this way of doing business, would be prohibitive.

The Bill of Exchange

SELFRIDGE cables to Armour to draw on Selfridge's London bank for the amount due. Armour & Co. do not do this directly. Instead, they make out a draft or "bill of exchange" on Selfridge and have this credited in deposit at their New York bank, we will say.

The credit stands not in pounds, but in dollars at the current rate of exchange—that is, the present value of the English pound sterling in terms of the American dollar. Usually Armour, or any exporter, as evidence that the transaction is genuine, is also required to deposit a full set of bills of lading and insurance certificates covering marine insurance, etc., together with invoice and shipping documents, though all of these papers may not be necessary. And it must be realized that there are several different ways of paying bills or receiving money from

abroad. This is but one of them, illustrating the principle.

The draft credited may be "at sight"—payable when presented—or it may be payable in 30, 60, or 90 days, according to the arrangement between Armour and Selfridge. The draft reads something like this:

"Exchange for \$..... at.....days sight, etc., pay to order of.....National Bank, New York.....(amount.) Value received, and charge the same to account of Selfridge & Co., London, England."

There is also some such clause as the following added, to the effect that the draft is "payable with exchange, commission, stamps as well as interest at 6 per cent per annum, from date hereof until estimated date of arrival of return remittance in New York." The interest clause will vary of course according to circumstances, but the interest must be paid, and, when the money is obtained in London, it will be deducted from Armour's credit at the New York bank.

Now suppose an American firm has bought of an English firm £10,000 worth of linen. The London firm can draw on the American firm for that amount in pounds sterling or the American firm can purchase a bill of exchange to that amount. Thus the banks are constantly buying and selling bills of exchange on both sides of the ocean and bills of exchange are passing across the ocean—but no gold.

Bills of exchange can also be transferred by endorsement just like checks, growing in value with the number of signatures upon them. As there are always many in circu-

lation, they are bought and sold like stocks upon the stock exchange.

When there is more demand for them than supply of them, they rise above par. Conversely, if supply exceeds demand, they fall. The par, as has been said, is the normal equivalent of the English pound sterling in our money—or, \$4.8665. The exchange rate can vary only between two "gold points," the upper limit being the cost of actually shipping the gold, the lower being the cost of importing the gold. These points vary with the cost of freight and insurance on the gold at any time. Normally the range between them is about \$.05. Fluctuations between these points help to determine, of course, the periodicity of gold shipments from England to America or vice versa.

What does this all simplify down to?

To this: that on either side of the ocean the banks of each country are both buying and selling bills of exchange and that actual gold shipment is deferred until it becomes cheaper to ship the gold than to pay the premiums for making remittances by bills of exchange.

When Gold Moves

THIS point comes when, for instance, the sales of American goods to England so exceed the value of goods England sells to us that the American banks become chary of buying bills on London because they find few Americans to whom they can sell them in turn. Therefore, Americans wishing to sell bills on London must do so for less than the face value of the bill, or at a discount—the banks in turn offering at a discount the bills they have so bought.

Conversely, the London banks will be selling bills at a premium, because they are compelled to buy them at a premium. In such a case it is said that the pound sterling "declines," its value in dollars decreases. Before the war, when it reached a quotation of \$4.83½, gold would begin to move from England to America. Today all charges are higher—ocean freight, insurance, etc.—and so the discount would have to be much greater before gold would move.

That is, if there were a gold point today.

But there remains only the upper limit, the cost of shipping from the United States, because Europe needs all her gold and foreign bankers are prohibited from shipping it. Removal of this prohibition would at present bankrupt Europe, and as it is we have too much gold already and greater importation of it would simply further inflate the H. C. of L.

We are now led to explain what is known as the "balance of trade."

People in one country buy the securities of another. Interest and dividends on these securities are paid back and forth between the two countries. Loans are made by the people of one country, or their government, to those of another. If a person in one country ships his goods in the vessel of another—something the United States did largely before the war, before the new rise of our merchant marine—freight must be paid the owner of the foreign vessel. Likewise passengers passing from one country to another in foreign vessels must pay their fares. When they arrive abroad and travel, the money they spend abroad goes into the circulation of the other country. Also, foreigners settling in another country send remittances back to their own land. And today, to glance at the United States, we have to consider the enormous war loans we have made abroad and the great bulk of foreign securities bought by us during the war.

These factors constitute what is called the "invisible" trade balance. They all enter into any estimate of the true balance of trade. They all affect the credit and debit columns of the big bank book of each nation. And, of course, the fluctuating exchange value of the currencies of the different countries depends constantly upon the balance of trade, for with gold as a standard, there is a fixed normal system of equivalents between the currency of every nation and that of every other. In general it may be said that the foreign exchange rate against a country (when imports far exceed exports) is good for sellers and producers but bad for buyers and consumers.

For centuries the English pound sterling has been the international commercial unit of

value. The bill of exchange on London has been preferred to gold, because it could be transferred more readily and with less risk. It has been called "the only currency of the world," since London has been the central clearing-house, as it were, of all the multi-fold foreign exchange transfers of the world. The bill of exchange has, in fact, been in the past a more usual instrument for settling business abroad than in the United States.

An automatic check fortunately seems to operate by natural law upon the foreign exchange situation. For instance, low exchange rates increase the cost of imports, which reduces import consumption. This operates to decrease extravagance, encourage home production, thus increase exports and put rates back to par. There should soon be a natural increase in exports of European products to this country. When we import more from England the demand for bills of exchange on England will increase in order that we may pay for those imports. Conversely, the demand for bills of exchange on the United States, which England would need to pay for goods exported by the United States, will decline, as England concentrates more on selling than on buying. This will gradually operate to increase the value in American dollars of the English pound sterling.

It Works Automatically

IF our own production is likely to be turned back upon ourselves before so very long, that would seem to indicate a lowering of prices. And suppose in time that a swamping process of imports from other countries and difficult exporting should begin. This would discourage native production and might lead to unemployment and rising prices.

Yet here again the "reciprocating action" of foreign exchange would doubtless serve if left alone to again draw more exports from us to markets abroad because of the lower prices demanded by us—"and so *ad infinitum*."

When the war broke, it was to international trade as if one had struck a delicately adjusted set of balanced scales with a hammer. Those scales are indeed still trembling violently, but none the less endeavoring to return to an equilibrium.

WHAT DOES A DOLLAR COST ABROAD?

EXCHANGE quotations are usually mystifying to the uninitiated, who find it hard enough to puzzle out what the quotations mean without even trying to study their effects. Just why present exchange conditions are advantageous to American importers and a handicap to our exporters is revealed by the table which is printed below and which shows the cost of a dollar to the foreigner who wants to make purchases in the United States. The Italian, for example, who desires to purchase machinery in the United States finds that for each dollar's worth of goods he buys he has to pay the equivalent of \$2.38 in lire.

In other words, the American dollar, or its equivalent in merchandise, costs in Italian money more than double what it cost in 1914.

To the American importer paying for purchases abroad these same conditions are a boon. In France, for example, the American's dollar has a value in francs equivalent to about \$1.90. In other words, its buying value as measured in French currency has about doubled.

When the premium on the dollar increases, the American exporter's prices to his foreign buyers are raised, while to the American importer the prices of goods he buys abroad are lowered.

	July 1913	July 1914	July 1915	July 1916	July 1917	July 1918	May 1919	June 1919	July 1919	August 1919	Sept. 1919	Oct. 1919	Nov. 1919	Dec. 1919
England...	\$0.998	\$0.997	\$1.019	\$1.021	\$1.021	\$1.021	\$1.021	\$1.049	\$1.059	\$1.115	\$1.160	\$1.160	\$1.167	\$1.215
France....	1.000	.995	1.094	1.139	1.109	1.099	1.169	1.206	1.248	1.401	1.571	1.650	1.700	1.897
Belgium...	1.006	1.001	.....	.....	.....	.....	1.223	1.254	1.289	1.457	1.605	1.644	1.605	1.814
Italy.....	1.024	.996	1.187	1.229	1.395	1.698	1.439	1.524	1.534	1.659	1.864	1.876	2.084	2.379
Switzerland	1.001	.996	1.039	1.031	.922	.764	.951	.994	1.041	1.071	1.090	1.077	1.077	1.057
Spain.....	1.076	1.075	.965	.955	.834	.696	.947	.960	.973	1.006	1.009	1.007	.998	.975
Denmark...	1.002	.999	1.017	.924	.926	.859	1.072	1.133	1.136	1.210	1.239	1.239	1.255	1.330
Norway....	.....	.....	1.001	.919	.919	.846	1.038	1.061	1.072	1.130	1.165	1.155	1.178	1.246
Sweden....	.....	.....	1.001	.918	.884	.755	1.002	1.047	1.041	1.076	1.100	1.094	1.121	1.196
Holland....	1.002	.999	1.005	.968	.974	.796	.995	1.024	1.031	1.061	1.079	1.068	1.057	1.054
Germany...	1.000	1.000	1.159	1.304	.....	.....	.....	.....	.....	3.967	5.471	5.447	7.329	10.136
Japan.....	.999	.999	1.009	.987	.972	.940	.968	.963	.977	.977	.987	.984	.984	.989

Our Temperamental Money

Austere though they may seem, our cents, dimes and other coins indulge in eccentricities which lead them into actions as mysterious and illogical as those of imported prima donnas

By AARON HARDY ULM

FOLLOWING the unpopular example of other commodities, silver has been soaring until recently it achieved the dazzling height of \$1.42 an ounce. True it stayed there but a little while.

But the celebrated silver dollar, the once abused, scorned, adulated silver dollar, had come back. It had come back with a vengeance that sent the Government's money experts to puzzling over solutions of problems that seemed imminent.

The high price meant that silver had reached and passed the "16 to 1" parity with gold—which is \$1.2929. That lurking something known as Irony showed its sardonic visage, and again in the halls of the mighty there echoed from the nineties the once familiar terms, "bi-metalism" and "the crime of '73." But the far advance didn't hold. Silver dropped back a few cents. The experts wiped their brows and breathed a little easier.

Searching Out the "Iron Men"

THE event sent many persons to fumbling among their hoardings for the silver "cart wheels" they used to joke about. But they didn't find many, for there are comparatively few silver dollars abroad. Most of those still "in circulation" repose, with their virgin sheen untarnished, in Treasury vaults. They are represented in the currency of the land by silver certificates.

There are somewhere in the channels of trade about \$81,000,000 of real American silver dollars, though during the last several years in many sections of the country one has been rarely seen.

There is in general circulation about \$240,000,000 worth of other silver money—half dollars, quarters, dimes—known as "subsidiary currency." Those pieces of money are of the same kind of silver as that in a dollar—but there's a difference, and an important one, in case further advances in the price of the metal turns minds to thoughts of hoarding. Silver must sell at more than \$1.38 an ounce before subsidiary silver money gets to be worth more as metal than as coin.

The secrets of silver's exciting antics lie somewhere in the distant East. There the silver standard was adhered to throughout the long Western discussion over the economic soundness of "16 to 1." The Oriental's scrambling for his gold, or its spokesman in other forms of Western money, used to make the chest of the Occidental traveling in the Far East puff out as nothing else did.

"You poor heathen," he would muse as he changed his bills for "Mex," "ought to wake up and learn the uses of real money."

Now the Easterner's silver is making a real, threatening fight with the Westerner's gold for first place in comparative values. The great increase in the price of silver is due in part to the general advance in commodity prices and to an increased Oriental demand for silver coin.

Government officials are not discussing the possible effect that would come from silver reaching a fixed value that would enable people to melt up silver money and sell it profitably as bullion. This state of affairs has already been reached in some countries, resulting in silver currency disappearing from circulation. Those countries have endeavored to meet the problem by forbidding the melting up of coin and the exporting of silver bullion. This last step was taken by Great Britain when the metal reached the extraordinary height of early November prices.

In this country there is no law forbidding the melting up of coin, though there is a war statute giving the President power to apply such a prohibition.

Selling money as metal isn't a very easy process, and in many ways could be made more difficult. In fact, the practice would be beset by danger unless the margin above parity was substantial. For money suffers, like everything else in use, from wear and tear. This factor of intrinsic deterioration might be significant in the case of silver dollars. No new ones have been minted since 1904, with the result that most of those in circulation have suffered losses in weight.

Yet holders of silver certificates have the right to go to the Treasury and demand silver dollars, in which case they would get new ones. Outstanding silver certificates were greatly reduced during the last two

nights. India's currency was and is on a silver basis. Certificates based on a silver reserve constitute the bulk of the circulating medium. War business increased India's silver demands; the rupee went up in intrinsic value. This stimulated the East Indian's instinct for hoarding, which was further stimulated by German propaganda. There was a rush for silver coin, and for a time suspension of specie payment was threatened. Owing to political restlessness among the Hindus, that would have produced a serious situation.

Then we engaged to throw a large proportion of our silver dollars into the breach. Congress authorized the Director of the Mint to sell to friendly governments or to trade as much as \$350,000,000 of them at approximately \$1 an ounce, as bullion. Silver certificates were recalled and replaced by Federal Reserve notes to the extent of more than \$250,000,000. The dollars were taken from the vaults, sent to the mints, where they were reduced to bullion or otherwise decoined, and hastened to Bombay or Calcutta to be reminted into Indian money.

Trainloads of Silver

THE maneuver proved of great help to our allies. The metal was carried in special trains. Some, like those starting from the Philadelphia mint, crossed the continent to the Pacific and went from there by water.

It was one of the great spectacular financial feats of war; and it was accomplished without an item of loss.

The authorities still have warrant for melting up and selling as bullion nearly 100,000,000 more of silver dollars.

The act authorizing the sale of the money requires the Director of the Mint to repurchase—at \$1 an ounce—the same amount of silver and mint it into dollars to replace those thus used. The range of silver prices have so far prevented any attempt at replacement.

While the "gold standard" still prevails, this country has minted no gold money for three years. The Government's vaults are chock a block with gold bullion, amounting, with gold money in circulation, to about one-fourth of all the gold that was mined during the last two hundred years.

Though the printing press lately has supplanted the mint in the producing of standard money—that is, money items of \$1 or more face value—our great coin manufactories have been far from idle. "The output of the Philadelphia mint for the fiscal year 1918 totaled 485,000,000 pieces," says Director Baker, "which was the largest production for any mint in the world during an equal period. All but 20,000,000 pieces of foreign coin and blanks was domestic money. That and the mints of Denver and San Francisco doubled the previous year's production."

In the month of October the mints pro-



California's love for gold coins dates back to the mining days

years, and therein lies what is yet only a partially told story of a war maneuver.

When we entered the war there were in Treasury vaults approximately 500,000,000 minted silver dollars, represented in currency by certificates.

About the time we declared war, there began in India a scramble for silver that kept British financiers and war managers awake

duced 82,000,000 coins, 61,500,000 of which were pennies. The others were nickels, dimes, quarters and half dollars.

There have been put into circulation all told more than 3,500,000,000 pennies. Of these only about 75,000,000 have drifted, battered veterans, back to the mint to be melted up, reminted and sent forth afresh.

"What becomes of all the pennies?" Director Ray T. Baker of the Mint Service was asked.

"I wish I knew," he replied, "but we had about as well try to find what becomes of all the pins. They wear out, are lost, destroyed in fires and otherwise disappear—that is, if they disappear to any great extent. Of course the growth of the country and the development of business calls for more small coin just as, on the whole, it calls for a general increase in all money. Lately the unusual demand for pennies, like so many other things, is due to war conditions. More things are sold at prices involving penny divisions; then the war taxes, such as those on moving-picture tickets and soda-fountain drinks, have greatly enhanced the use of one-cent pieces."

Small-sized penny panics have occurred in many sections of the country during the last year or two; but, so far as the Treasury is informed, the scarcity has not been anywhere so great as to send "small change" to a premium, as has happened in other countries.

There is no law against selling pennies and nickels at a premium, if anybody wants to pay it.

During the last several years, children have become great hoarders of pennies and nickels, a practice facilitated by the savings banks. The benevolent work of the penny savings bank threatened at one time, early in the days of the war, to produce trouble. The penny demand bade fair to exceed production. The Treasury didn't want to tell the youngsters not to save their pennies. After a while a very happy solution was found. The children were urged to turn their hoardings promptly into War Savings stamps. Thus a twofold service was promoted.

A Profit Going and Coming

CONGRESS was perhaps unconsciously canny in imposing the penny war taxes; for the Government not only gets the taxes in full, but a big profit on the making of the millions of extra pennies.

Even at the present high prices of tin, copper, and zinc of which the bronze entering into pennies are made, it costs only about 20 cents to produce 100 one-cent pieces. Thus "seigniorage"—as the profit from minting is called—on penny pieces coined during the fiscal year ending June 30, 1918, was approximately \$3,500,000. That on five-cent pieces, which now cost about 50 per cent of face value, was a few hundred thousand dollars greater. Until silver reached its recent high prices, there was big seigniorage on all subsidiary coin, which still represents a big book profit, for the Government is drawing on its stores of silver purchased before prices went above \$1 an ounce.

In fact, the mints are highly profitable manufacturing enterprises because of the seigniorage on coins of less intrinsic than face value. They show a net income of

about \$20,000,000 annually, or more than the cost of the entire Government during the early days of the Republic.

Of course a lot of the money turned out comes back for exchange into new money—and then a lot of it doesn't come back at all. That which does, however, represents a margin of loss, as a rule. For all coins, except gold, are forever worth face value, so long as they are intact and the "face" is recognizable. Hence a half-dollar piece that floats around for twenty years and drifts back will be several grains lighter than when it left the mint. The Government stands the loss. However, it doesn't stand the loss on gold coin, except within a small tolerance allowed for divergence in weight and wear.

Gold, alone of extant metal money, is not



The South took to silver dollars because of the fear of Confederate currency

of "face value." With it, the Government only says it was worth so much when it left the mint. On its return, its value is determined by scales.

This factor has contributed to the depopularizing of gold coin, which, in many sections, used to reign supreme in the affections of the people. Even on the Pacific Coast, where sectional pride in their "land of gold" made gold money for long the dominating species of coin, they are now coming around to the Easterner's preference for paper currency. The one-time exceeding prevalence of gold on the Pacific Coast was not due, as many thought, to the devotion of the San Francisco mint to the making of that kind of coin. In truth, about as much gold money has been distributed from the Philadelphia mint.

Rocky Mountain folk used to prefer silver money—also out of sectional pride.

The South loved the "iron man" silver dollar because of the fear of confusing old Confederate paper money with legitimate "greenbacks," and also because of illiteracy among the negroes.

The managers of the Government mints have to keep up with the fashions in money just as any other line of manufactures keep up with popular tastes. A few years ago, half dollars were in partial disfavor, as shown by their tendency to drift back into the sub-treasury vaults, which are the clearing-houses for coin.

It looked for a while as if they could permanently suspend the making of that coin, but a little later on there arose a mysterious demand for them exceeding the supply.

Mint authorities find little evidences of unjustified suspicion or superstitious prejudice against any form of money.

The silver dollar lost favor because of its size and inconvenient weight. Many persons dodge \$2 bills because they may so easily be passed out as dollars. Likewise, the old

nickel three-cent piece became unpopular because it looked and felt so much like a dime; and the silver half-dime, once in common use, proved unpopular because of its small size.

The mint and Treasury authorities keep abreast of "money fashions" in this and other countries, and when the law and policy permits, yields to them.

The distribution of coin is much like that of any other product. It is made chiefly through the sub-treasuries and the banks. It is the business of the mint to keep the former supplied with the stocks each may need for its particular section of the country.

Virtually all of the gold and a large part of the silver produced or imported into the country pass through the mints or the assay offices, which are important parts of the United States Mint Service. Annual transactions mount into the millions, sometimes the billions, annually. In one assay office there is now stored about \$1,000,000,000 of gold bullion.

Yet the long history of the mint service is undimmed by the record of any large loss, either through theft or mis-handling. A checking-up system virtually impregnable has been developed. Even the sweepings from the floor of rooms where melting, refining or stamping is done are kept and the particles of treasure in them recovered.

Since President Washington saw the simple apparatus used in the first mint turn out the nation's first coin (which, by the way, bore the likeness of Martha Washington) there has been coined approximately \$5,000,000,000 worth of money, for our own use. In addition we have coined considerable money for other countries, chiefly in South America.

Machines Do All the Work

GREAT improvements have been made in minting methods. Only recently the Philadelphia mint was equipped with immense conveyors, which, with other machinery, make it virtually unnecessary for metal to be touched by human hand from the time it is poured into the melting pot until it comes out, stamped and sacked, ready for shipment.

The actual coin in circulation, barring that represented by certificates or other paper representatives, is worth about \$1,000,000,000.

What has become of all the rest?

Some was withdrawn from circulation, much went to other countries to be turned into bullion, and a great deal was, as is yet the case, employed as "raw material" in industry and the arts. For money has few sacred attributes. In a general way whoever has it may do what he pleases with it. It can't be lawfully mutilated, "sweated"—that is, lightened through a combined heating and chemical process once widely employed by Chinese—and sent forth again as coin. But it can be melted up and made into rings or collar buttons. It is estimated that \$3,500,000 of gold money is so used every year. One Massachusetts manufacturer of spectacles uses \$1,000,000 worth each year in making rims. It happens that money is of just the alloy needed for the purpose; and because of the gold standard gold is always of the same price, regardless of its form. Considerable

(Continued on page 50)

Back to Private Ownership

The sentiment against further government operation of railroads is overwhelming and unmistakable---Congress now busies itself with details for speedy return of the carriers

By A MEMBER OF THE STAFF

UNLESS the unexpected happens, Congress will enact a law which will cause the return of the railroads from Government operation to corporate operation early in the New Year. The Esch bill, which passed the House near the end of the special session, is not expected to pass the Senate in its present form. The probable action of the Senate bill will be to strike out all after enacting clause in the House bill, insert the Cummins bill, pass the measure, and send it back to the House. The House will non-concur in the amendment thus made by the Senate, and ask for a conference. The Conference Committee then will whip into shape legislation for taking care of the railroad question.

While the two measures have many points in common, there also are many important particulars in which the Cummins and Esch railroad bills differ. For instance:

Requiring that railroad companies become Federal corporations: The Senate bill favors this proposition. The House bill is silent on the subject, but the House Committee reported that it could not accept the principle of Federal incorporation because it might be unconstitutional, and likely would entail litigation, expense and delay.

Requiring a statutory rule of rate-making designed to yield sufficient revenue to enable the railroads to furnish the service that is required by the public. This principle is in the Senate bill. The House bill leaves with the Interstate Commerce Commission full authority for rate-making, but does not define a new rule by which the Commission shall be guided.

Creation of a Federal Transportation Board. This is a Senate provision. The House bill makes the Interstate Commerce Commission the highest railroad authority.

Making strikes unlawful. This is in the Senate bill. The House Committee, declining to put the provision in its bill, provided for boards of wage adjustment, fashioned after the plan followed by the U. S. Railroad Administration, and for appeal boards.

On these four points likely will come the fight in the Conference Committee. The other features of the two bills differ in minor details, but legislators seem to feel that there will be no difficulty in harmonizing without delay all of the features with the exception of the four mentioned. Regarding what the outcome of the points in dispute may be, one man's guess perhaps is as good as another's, but the opinion is freely expressed on "The Hill" that there will be a railroad law under which the lines will go back on or before February 1.

The Opinion of Business

AS stated, only the unexpected will interfere with this program. The unexpected might mean most anything---strikes, delay due to further consideration of the League of Nations, political exigencies of the times, etc.

The business men of the country last summer, through the local commercial organizations, declared six to one in favor of a rule of rate-making, voting on Referendum No. 28 of the Chamber of Commerce of the

United States. The Cummins railroad bill, recommended for passage by the Senate Committee on Interstate Commerce, and now being considered in the Senate, includes such a rule. The Esch railroad bill originally in-

How to Turn 'em Loose?

TRANSPORTATION is necessary to the progress of every community. The railroad question is local and vital to every city and village in the United States.

The Government took over the railroads as a war measure, and for two years it has made this great industry---variously estimated to be worth from twenty to twenty-five billion dollars, and employing more than two million men and women---function both as a war machine and as a civilian enterprise. The Government now proposes to turn the roads back to the corporations which own them. Bills for this purpose are before Congress, and it is expected that they will be acted on at an early date.

The status of the pending measures, and the problems to come before the railroad corporations for solution in the near future, are described in the accompanying article by a member of THE NATION'S BUSINESS staff.—THE EDITOR.

cluded a rule of rate-making, and the House Committee on Interstate and Foreign Commerce recommended it; but when the House took the measure up for consideration the rule was stricken out.

Elliot H. Goodwin, general secretary of the National Chamber, in a letter addressed to member organizations early in December, calling attention to this phase of the proceeding, said:

"All commercial organizations that stand for the rule of rate-making—all business men who believe in it—should immediately communicate their views to their Senators and Representatives and urge them to do all in their power to have this principle incorporated in the law that will provide for the regulation of the railroads after they are returned to private operation. In thus bringing to the attention of their Congressmen the importance of a rule of rate-making they will be carrying out the program adopted by their votes on Referendum No. 28."

Argument in favor of a statutory rule of rate-making, prepared by the committee appointed by the Board of Directors of the Chamber of Commerce of the United States

to make effective the results of Referendum No. 28, is attached to Secretary Goodwin's letter. This committee includes George A. Post, New York, who is chairman of the railroad committee of the National Chamber, chairman; Harry A. Wheeler, Chicago, vice-president, Union Trust Company; Emory R. Johnson, dean of the Wharton School of Finance and Commerce, University of Pennsylvania, and Richard Waterman, Washington, secretary of the National Chamber's railroad committee.

"It is generally recognized," the committee points out, "that when the railroads were taken over by the Government their revenues were not sufficient to enable them to supply the country with adequate transportation facilities and to furnish the services needed by the public. During the period of Government operation the financial burden of maintaining transportation has been borne by the Government, which has drawn part of the funds necessary for maintaining the roads from the Treasury of the United States. The revenues received from the shippers and travelers have been less than the necessary expenditures of the Government."

There'll Be No Sudden Jar

THE change from Federal to corporate operation likely will be made with such ease and so little ceremony that it will cause no excitement. The business of railroading will go on about as before. The officials who have since January 1, 1918, been running the railroads for Uncle Sam are the same officials who used to run them for the stockholders, and they are the same officials who will continue to run them, but for the stockholders again, instead of for the Government. Changes of policies and practices will not be made in a day. They will come gradually, and quite a period will elapse before the good or ill resulting therefrom will be felt by the public.

The best evidence collected by the writer in a study of the situation indicates that turning the roads back will be a popular move, generally speaking. There is no doubt that it is popular with business men, and farmers seem to favor it. Organized railroad employees made the strongest fight against the return of the roads, and they had the support of some other labor unions, of the Socialists, and of those individuals who for many years have been advocating government ownership. Most of the talk one hears about the formation of the new political party is built around government ownership.

To get a fair idea of the sentiment of the country on the railroad question, one needs only to look in on Congress, where public sentiment is reflected. Government ownership has no following to speak of there. The Plumb Plan managers succeeded in having their bill introduced in the House, where it succumbed to the sleeping sickness, but they were unable to find anybody to introduce it in the Senate. They were particularly desirous of having a Senator from an agricul-

tural state present their measure. The fact that they failed in their effort was a pretty good sign that Senators understood farmer sentiment to be opposed to government ownership. All of which indicates that the theory of government ownership is low in the scale of public opinion.

The corporations are fortunate in being able to resume the operation of their properties with the avowed consent of the country's business men. That is worth a great deal, and it is likely that the corporate officials will exercise due diligence in holding this advantage. Perhaps there is no better way of obtaining good will and keeping it than by giving dependable service. The experienced traveller and the regular shipper want service, and when that is provided they take little interest in schemes such as government ownership; but when the service is poor, and getting worse, they are slow to accept excuses, and are inclined to join radical movements. A great deal, therefore, depends on the kind of service the corporations are able to furnish when they take them back for operation.

Features To Be Kept

FOR several months corporation officials have been in conference to determine what reforms put into effect by the Railroad Administration should be continued under corporate operation. Here is a list of rules and regulations with reference to various phases of freight shipping which stand a show to be kept in force:

Regarding attendants accompanying live stock shipments; feeding livestock in transit; minimum weights; transit privileges; through billing; inspection and demurrage bureaus; consolidation and unification of tariffs; maintenance of tariff bureaus, and standardization of equipment to a greater or lesser extent for the purpose of overcoming the difficulty due to the 2,023 different styles of freight cars in use before the war.

Prior to operation, every railroad had its own rules on these subjects, often causing confusion, inconvenience and delay on the part of shippers.

It is pointed out that when the weak lines, which have many poor cars, get hold of good cars they are inclined to hold them. Under private operation, it was not unusual for a strong railroad company to be short a majority of its good cars, having in their places the poor cars of other lines. That led to the practice of transferring goods at terminals, which resulted in considerable controversy between shippers and carriers. A car service organization patterned after the car service section of the Railroad Administration, with arbitrary powers which would require the prompt return of cars, may be necessary. It is a subject to which the traffic executives are giving careful consideration.

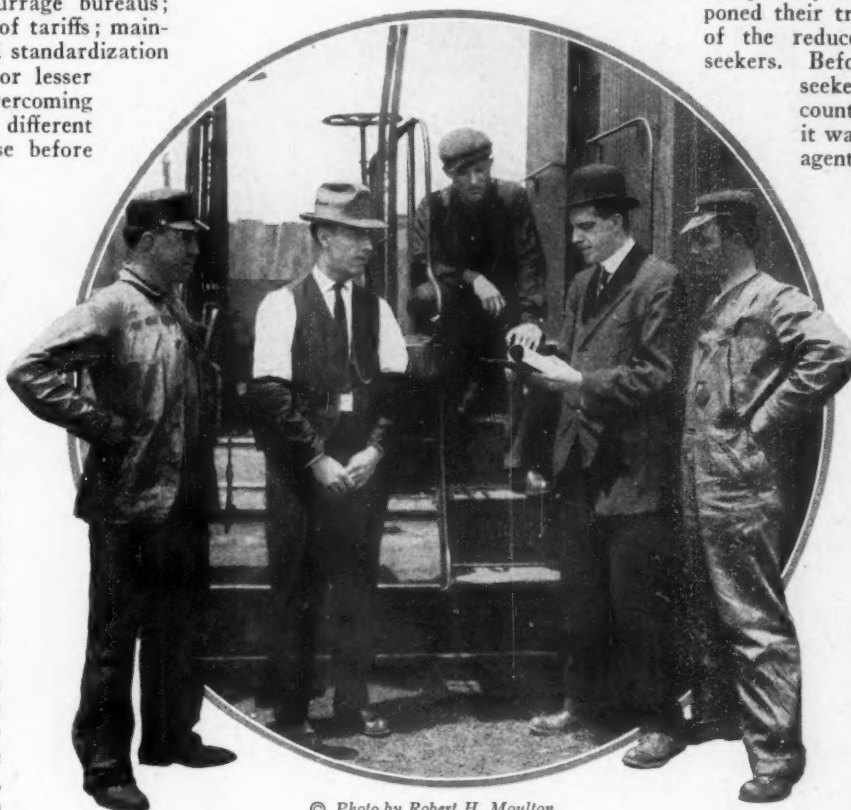
When the government took the railroads over an order was issued closing the off-line freight and passenger offices, and prohibiting the solicitation of railroad business. The order put a number of freight and pas-

senger solicitors out of commission, that is, so far as soliciting was concerned. Whether this feature of former activity will be resumed under corporate operation is a problem which has not yet been solved. If there is to be competition, there will have to be solicitation in some form. With the settlement of that question will come the discussion whether railroad companies shall maintain off-line offices.

The consolidated ticket office in the larger cities has proved to be a convenience for the public. There is a disposition to continue the consolidated or union ticket office in larger cities, but whether they will be maintained in small towns is a question to be determined.

The consolidated freight station is perhaps not so great a convenience as the consolidated ticket office for the reason that the general public does not patronize the freight depots. However, there is sentiment among executives in favor of the maintenance of uniform facilities, wherever possible. In fact, some of the railroads prior to the war were advocates of joint terminals.

Before the war there were eight passenger associations and an equal number of freight associations organized for the purpose of handling subjects in which the several railroads were interested. These associations ceased to function when the government took charge. The Railroad Administration created three general committees to do the work of the passenger committees, with the headquarters in New York, Atlanta and Chicago, respectively, using the old organization machinery. Three general committees also were created to take care of the work formerly done by the freight traffic associations.



© Photo by Robert H. Moulton

These freight committees in turn created a number of sub-committees and to the various committees all suggestions for traffic handling were referred for consideration and determination.

Just what will be done in the way of reviving the old traffic committees has not been decided. Some of the lines favor an arrange-

ment such as now is in existence, while others want to go back to the old method.

The American Railway Association, the most important of all the transportation organizations in the country, has been in operation during the war. Of course, it had no direct connection with Federal operation, but it had an influence on it. Already this Association has had several meetings to discuss questions which will have to be settled soon, and is prepared to function immediately.

The Railroad Administration started out bravely enough to do away with special passenger rates, but it could not stand the pressure brought to bear from influential persons and organizations. The lid put on by Mr. McAdoo was first pried off by the Confederate Veterans. Then the Union Veterans pried it off. The churches were equally successful in making terms for their conventions. So were the fraternal societies. After that it was easy to bring about reduced rates for educational conventions, for summer and winter resorts, for soldiers on furlough, for fairs, and for charitable purposes.

How It Worked Out

THE special rates for tourist traffic and for fairs brought a good profit, the railroad men say, but there is little or no money in the other business handled on reduced rates, and some of it is handled at a loss.

The administration has stood like adamant against granting special rates for homeseekers, claiming that a big majority of those who used to travel on homeseeker tickets sought everything but homes. In other words, the privilege was greatly abused, the cars attached to trains for homeseeker being occupied by regular travelers who had postponed their trips in order to take advantage of the reduced rates provided for homeseekers. Before the war there were homeseeker rates in many parts of the country, especially in the West, and it was a sore disappointment to land agents and development associations when the Railroad Administration declined to include them in its list of reduced fares.

The passenger agents of the railroad companies probably will find the subject of special rates as difficult to take care of as it was prior to Federal control, and it likely will be one of the first presented for consideration.

Complaint has been made that the employees having to deal with the public are not so courteous or attentive as they were when the railroads were under corporate control. Doubtless, this is true to a considerable extent, although the complaints are general rather than specific. Under corporate control everybody was spurred up to do his best. Under government control there has been a letting down of discipline in many quarters, and the

employee, unless politeness is an inborn quality, often assumes an attitude of not caring very much what the public thinks of the service. Travellers and shippers who were accustomed to having representatives of the railroad call at their places of business and assist them in arranging freight and passen-

(Continued on page 86)

Mr. Hines Rises to Reply

An authorized interview with the Director General of Railroads in which he gives an account of his stewardship and points to some benefits that may outlast government control

By J. F. JARRELL

WALKER D. HINES, Director General of Railroads, would appreciate it very much if the public would get the thought out of its head that the U. S. Railroad Administration is a bureaucratic organization.

"I devote a good part of my time to the reading of editorials on the railroad problem, and get a great deal of enlightenment from them," Mr. Hines said. "I think I catch as the underlying thought in many of these editorials that since the United States is now temporarily operating the railroads, the agency which is doing it must be the old fashioned sort of a government bureau that we always had in our minds as the type of agency which the government employs to do things; and we probably imagine that this bureau is filled with incapable office seekers who have no concern except to draw their pay, with their brains and their desks both covered with cobwebs. Naturally when we form that picture, we are driven to the conclusion that whatever this agency is doing, it must be inefficient.

"But that picture does not fit the Railroad Administration. There is not a man in the organization who has sought the job. In every instance the office has hunted the man. I have not seen any signs of cobwebs. I believe throughout there is the most earnest desire to find ways to improve the efficiency of railroad operation. We have met with a most ready response on the part of railroad officers, because they have appreciated the value of what has been suggested, and have given their most hearty support in carrying forward these efforts to improve operating efficiency. We also have had a very effective measure of support from the railroad utility and public service commissions."

Ever Think of It This Way?

THERE has been criticism of the Railroad Administration on account of the increases in pay to employees. Mr. Hines has several things to say on that subject.

"In this, as in many other things, it is the extreme cases that are dwelt upon, whereas we should look at the general situation. The average increase in rates of pay which have been made for the railroad employees has been about 50 per cent over the rates of pay which were in effect in December, 1917. I have yet to learn of any important industry which has shown a more conservative average of increase in pay in the same time, in view of the war conditions which made increases in pay both proper and necessary. While this increase in the rates of pay has been about 50 per cent, the increase in the earnings per individual has been less than that, because the number of hours the individual employee works is less than the number of hours he was working in December, 1917, under the war pressure then prevailing, and under the longer hours which were then established.

"I think it is a mental habit that all of us

WHEN the United States Government took charge of the railroads at midnight December 31, 1917, Walker D. Hines was chairman of the board of directors and general counsel of the Atchison, Topeka and Santa Fe Railway Company. Mr. McAdoo, the first Director General of Railroads, needing an experienced railroad executive for an assistant, invited Mr. Hines to take the place, and the invitation was accepted. Mr. Hines served as assistant during the war, and until Mr. McAdoo resigned early in 1918, when he was appointed by the President to be Director General. He has been on the job all the time, and is familiar with what the United States Railroad Administration has accomplished. He is, therefore, in a position to discuss the Administration's work, and to point out how far its program is likely to be reflected in the activities of the lines under corporate operation.—The Editor.

have got into—on account of my peculiar situation I suppose I have escaped it—to assume the Government's treatment of the labor question is bad because the Government did it, and then assume that Government control is bad because it treated the labor movement as it did. I think I have seen a great many comments running around in a circle that way.

"One or two illustrations:

"Last spring Judge Gary announced that the labor costs per unit of steel produced by the Steel Corporation had increased 119 per cent since 1913. Everybody accepted that as evidence of the efficiency of the Steel Corporation. Nobody has claimed that the increase on the part of the railroads has been that much, but nearly everybody has accepted the less increase in cost on the part of the Railroad Administration as an evidence of inefficiency.

"Our director of operations was in Colorado, and talked to the president of one of the principal plants out there. This president was bemoaning the situation that the Railroad Administration had increased the cost of common labor to the point where it was impossible to get it and had driven everybody out of business. Our director, who was walking through his plant at the time, asked the president what he was paying for common labor. The president did not know, but he called for the figures, and found that it was about 10 cents an hour higher than the Railroad Administration was paying in that locality. It was a great deal pleasanter for the president of the plant to criticize what the Railroad Administration was doing than to look into what he was doing himself.

"I think it is unfortunate for us to drift into an attitude of settled antagonism to labor, because labor is a very important part of the community, and in the long run we must find a proper *modus vivendi* whereby we can secure the proper cooperation with

labor. I believe that by patience and fair-mindedness as well as firmness this can be accomplished. I think it is not in the public interest to develop a bitter hostility on account of labor manifestations, which I regard as temporary, and which are momentary growths of the unsettled conditions which have been the result of war."

Mr. Hines declared that the railroads of the country at the present time are handling a larger business than they handled last year, and the business they handled last year was larger than the business they handled in preceding years. "And the railroads are handling this record volume of business at rates which represent a lower proportion of the value of the things transported than I believe has ever been true of the past," Mr. Hines said. "We know from experience that the price of nearly everything has gone up far more than the cost of its production has justified, but the price of transportation has gone up in less proportion than has the cost of producing it.

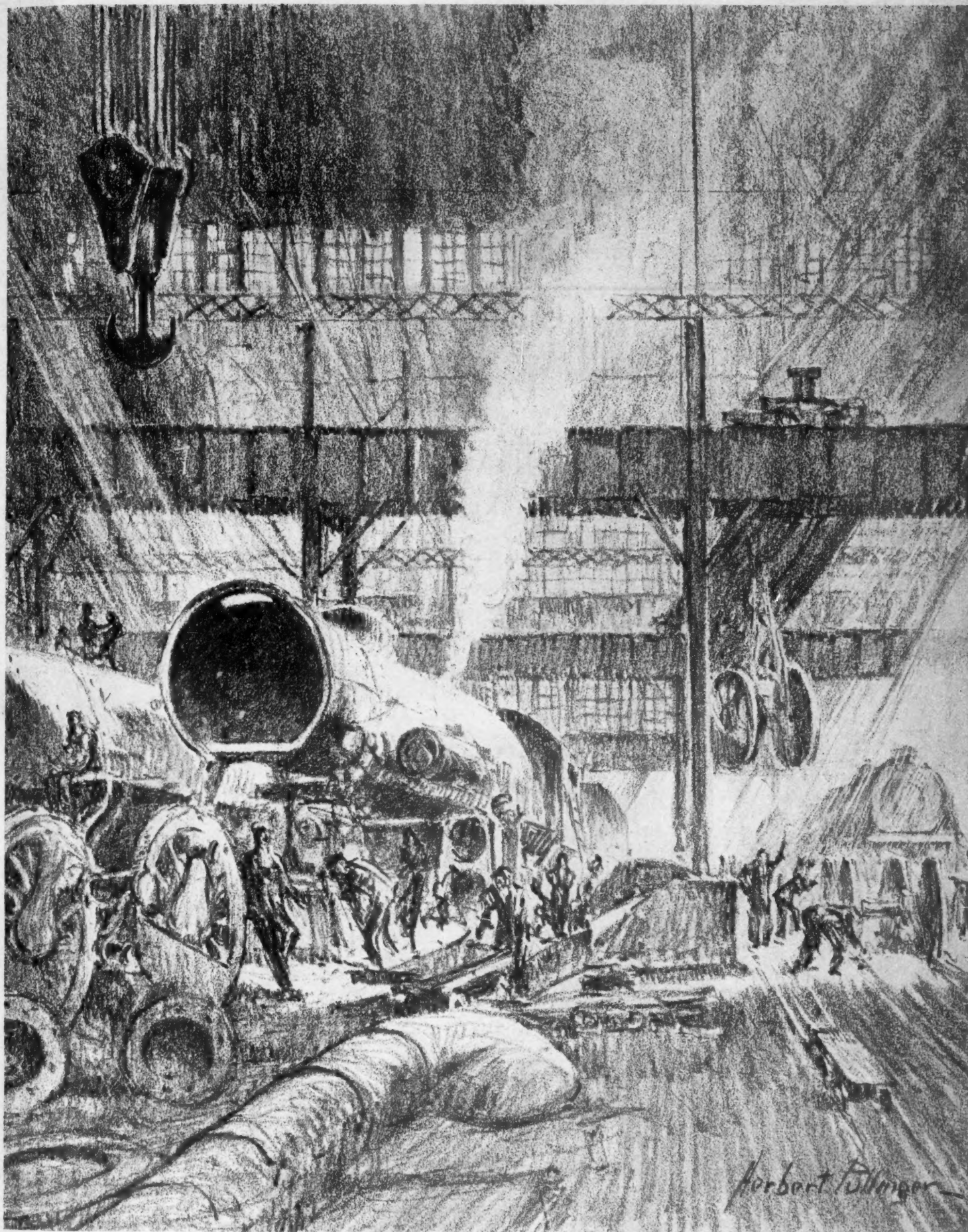
"In making this general reference to what the railroads have done and are undertaking to do," Mr. Hines said, "I want to call attention to one important part of the work which was of supreme importance during the war, and which continued to have an importance far beyond what is realized. That is the work in the movement of troops. In the twenty months ending with August, 1919, there were seven billion passenger miles of service performed in the handling of troops. This was to a very great extent in addition to a practically normal passenger traffic, so that the inconveniences which the traveling public sustained can, in a large measure, be accounted for by the fact that this enormous troop movement was going on practically all the time. It had to be moved under the most exacting conditions, and had to be given preference to whatever extent the War Department might find it proper to require.

As to Inadequate Facilities

IN SPITE of this enormous volume of passenger traffic, the freight traffic is larger now than it was at the same time last year, and it was larger then than in preceding years, so we have a condition where we are unable to meet the demands for traffic. This has always been true in times of a heavy volume of business. We have never known a busy year to go by when there was not a serious shortage of transportation in the portion of the year when the traffic was heavier, but there are some special and obvious reasons for the difficulty which now confronts the railroads in handling all the business which is being offered, and that is the inadequacy of facilities, and especially of freight cars."

Mr. Hines admitted that a natural and proper inquiry on the part of the public is, if there is inadequacy of facilities, why are not more facilities provided? His answer:

(Continued on page 66)



THERE are few machines with the appeal and beauty of an American built locomotive. Powerful as it is, your modern engine must be groomed, petted and doctored like a thoroughbred horse if it is to give full and perfect

service. Mr. Hines says that millions of dollars are now being saved by better caring for these expensive giants of the railroads when they are not working. This drawing of the Baldwin works was made by Herbert Pullinger.

The Raid on Davy Jones

U-Boats sent six billion dollars' worth of tonnage down into the domain of this under-sea gentleman; so great is the treasure that man is taxing his ingenuity to regain it

By J. WAINWRIGHT EVANS

HARKEN to a deep-sea riddle—a question now being asked on all sides: "What portion of the 6 billion dollars' worth of shipping that the U-boat sent to the bottom, during the war, can be retrieved? There lies a treasure beside which all the treasure ships of history that have sunk in all the seven seas are a small matter. Can we get back all of it, or only a part of it?" It involves merely human endurance. The physical limit of performance of a certain man in a rubber suit is, for the present at least, the only consideration.

A man, clad in a suit of rubber, with his head in a grotesque helmet, his waist and feet weighted with some 90 pounds of lead, his body supplied with air at any needed pressure by power pumps, his ear and mouth to a telephone! He swings from the deck of a ship and descends many fathoms to a sunken wreck.

Dead men may bob and bow in ghastly solemnity to him as he moves through haunted chambers in those depths; fish may follow him, drawn like finny moths to his searchlight; strange weeds may wind about him and impede his passage; and some old, forgotten wreck may lie like a bleaching skeleton across his path. Like a visitor to some distant planet, he faces conditions as alien, grapples with unimagined contingencies and freaks of natural law, in constant peril of his life.

Suppose his lines foul or his air is cut off?

He may also slip from near the surface and fall to great depths, where the insufficient air pressure inside his suit may crush him up into his helmet. He may lose control of his suit and find himself head down and helpless; he may accidentally cut or tear the rubber of his suit, and so be drowned; he may be poisoned by excess of oxygen; he may "blow up"—that is, may come to the surface too rapidly—and find himself in the agonizing clutch of the cussion disease, his blood bubbling with escaping nitrogen like an uncorked bottle of champagne—in which case only quick recompression can save him from an agonizing end.

A Grim Onlooker

APERILOUS and terrible flirtation with death, a daily engagement in work whose physical conditions must shorten his life—that is the lot of the professional diver. He makes his matter-of-fact observations, judges the engineering problem involved in any work of salvage; and later, alone or in company with others, descends to the under-water world again.

With great pontoons that lift the dead weight of the wreck with the tides; with patches and plates and steel cables; with submersible pumps that shoot water out of the hulk geyser-like to the surface; with the acetylene torch whose tongue of fire can lick its way under water right through the ship's steel side; with dynamite that destroys the

hull but bares the cargo; with great cofferdams built from the ship's gunwale to the surface and then emptied till she rises; with big iron bodkins by which cables are slipped under the hulk like so many strands of tape—with these and every other adaptation of

Under-Water Workers

DURING the war the German U-boats sank one-fourth of the world's shipping, 15,000,000 gross tons. The British alone lost 2,465 ships with their crews and 3,147 of which the crews were set adrift. Nearly six thousand British ships alone, from fishing smacks to great liners! Six billion dollars' worth of shipping altogether that the U-boat sent to the bottom! Some salvaging has been done. The major portion is to do.

And it all depends upon a man in a rubber suit, the regular old-fashioned diver. Of his dangerous trade Mr. Evans tells graphically. Engineers have not yet invented any machinery to take his place. It's a thrilling business and here is the whole romantic though intensely utilitarian story.—THE EDITOR.

land engineering which can be made, the man in the rubber suit and the steel helmet brings all or a portion of that lost ship and cargo up to this our world. Even her papers and chronometers he restores; everything, indeed, but the lives that went down with her when she sank.

Essentially diving is an art. That is to say, it is one of those things which cannot be done by the unaided machine. A man must be there to see and to guide and to feel out the path, often in utter darkness. Engineering science has not yet been able to eliminate that human element from the salvage problem.

Apparatus may some day be devised which will take the place of the man in the rubber suit. So far it has not. Therefore this remains the main fact in modern salvage enterprise: that no diver can operate to advantage at a depth of more than 150 feet, and that the extreme record of salvage operations—the case of the *F-4* in Honolulu harbor—has been 300 feet. (And the *F-4* was a very small boat, with a dead weight of only 250 tons. It took months to get her in by raising her on the tides with pontoons. Compare that job with the problem of a 5,000-ton freighter.)

The greatness of the prize is sure to spur the engineering profession to great exertions, however, and if men with capital, drawn partly by the spice of adventure that goes

with every deep-sea treasure hunt, provide money that will be adequate for big-scale operations, we may see some developments in the next few years that will astonish even the engineers themselves.

Any hunt beneath the sea is a hunt for treasure, whether it be a gold-ballasted Spanish galleon that sunk in ancient days, or a coal-laden barge that sunk in a last winter's storm in Long Island Sound. It is something more than an interesting commercial possibility. It has in it a tang of romance. And the pull of the idea may be seen from the avidity with which the whole public reads every new yarn about the latest project for raising some treasure ship that sunk centuries ago with fabulous wealth on board. Only a few hundred feet down! So near that man can all but see her! Yes—but you can't smash Davy Jones's Locker as a thief breaks a plate-glass window—not unless you crystallize the sea by changing the climate.

Professional salvage men generally laugh at all dreams of practicable operations at great depths, particularly in the open sea. Vastly improved methods, they will tell you, may sometimes make 300 feet a practicable depth; but anything beyond that is as inaccessible as the moon. It is a waste of paper, ink, and breath to talk about it. Still, if your questioning be but close enough you can generally trap them into an impatient admission that devices may some day be perfected by which a man in a rigid steel shell may go to the bottom at practically any depth, and rig his tackling without the hand manipulation which up to now has been so essential in salvage work.

The limit of salvage, however, is not altogether the limit of depth. There are many wrecks at easily accessible depths which cannot be recovered. Some seas are so stormy, for example, that any attempt involving operations extending over a period even of days is certain to be broken up by the weather. But even that obstacle may be measurably overcome; for there is a recently discovered method of breaking up the force of waves by means of air emitted from submerged pipes.

Will It Pay?

THE question has often been asked, "Can not the *Lusitania* be recovered?" The *Lusitania* lies about nine miles off the south Irish coast at a depth of 320 feet. It is conceivable that engineers could raise her if they were given enough money to do it with. But the cost would be enormous, and commercially it would be a loss. That is the case with hundreds of ships which lie at much less depth. And since salvage is a business, this question of cost is vital.

There seems to be no doubt, however, that salvage work will now be organized on a much bigger scale than ever in the past, and

that the field is big enough to permit the employment of apparatus so big and so costly that nothing but its constant and profitable use could make it pay.

The men back of most deep-sea salvage are the underwriters. One reason why the British have gone so much further than we in this industry has been that in the past the great marine insurance companies have been in England. Also, their stormy seas and the difficulties they encounter because of them have forced them to the use of methods which American salvage men have not been driven to.

The ownership of a big merchant marine in this country, however, will naturally develop underwriting; and underwriting here, as in England, will develop a very big salvage business. When that time comes we may look to see extensive operations undertaken on the accumulated wrecks of the last hundred years wherever they happen to be accessible, intact, and worth the cost.

The Thrift of the Enemy

WHILE the U-boat campaign was at its height certain German publications announced the discovery of a process for raising sunken ships from great depths. The idea apparently involves some method of protecting the diver against pressure by means of an under-water shell—not, be it understood, a metal diving suit; for the metal diving suit “freezes” at the joints under pressure, so that the man inside can’t move at all.

One writer has pointed out that when the U-boat campaign first started, the Germans made it a point to sink ships at less than 50 fathoms—apparently with the thrifty purpose of salvaging them later by the use of their new device. They were soon driven out into deep water, however, and sunk where and when they could.

The steel-shell idea involves, in addition to a casing capable of withstanding any pressure, heavily glassed port-holes, strong lights, and mechanical arms operated by power apparatus for attaching tackling to the hull. It is conceivable, for example, that the recently invented methods of using an acetylene torch under water might make practicable some device for making holes in a ship’s hull, and so allow the passage of an attachment that would open out when it got inside, and thus afford the necessary hold for cables. It would, however, take a very large number of such attachments to raise a heavy ship without tearing away the side plates.

Another possibility is an attachment capable of riveting plates to a ship’s hull for closing holes, or to afford a grip for cables. Still another is a self-propelled electro-magnetic automaton, which, it is claimed, will go down the side of a hull, go under it, and up on the other side, blowing away sand and gravel as it goes, and trailing a cable behind it. One inventor claims to have devised a mechanical hand with 12 fingers operated by a sliding rod. It is said that this hand

can pick up a piece of paper from a flat table, and that it could be operated either by a man in a metal suit, or through the sides of a rigid shell. Practical engineers shake their heads at the talk of these things; but the effort to devise them is being persistently made, nevertheless; and it takes a bold man to predict what may finally come of it.

A device recently announced by Simon Lake, inventor of the modern submarine, is in the form of a long tube having a kind of diving bell at the end. Inside is an air lock which keeps back the water and enables the man at the bottom to walk on the ocean bed and explore at will. But, of course, it does not keep him from the pressure. It is believed that this new device will make easy and cheap many salvage operations which might otherwise be costly or impracticable.

During the war the Germans sank one-fourth of the world’s shipping, 15 million gross tons. The British alone lost 2,465 ships with their crews, and 3,147 ships were sunk and their crews set adrift. That makes nearly 6,000 British ships alone, from fishing smacks to great liners. From 1915 to 1919 the British salvaged about 500 of these.

Most of that number, however, were ships that had been beached. It was simply a question of patching them at low tide and pulling them off with tugs at high tide.

The value of the recovered tonnage and cargoes is about \$250,000,000. Some of the work has involved notable exploits, and none of it has depended on the use of any of the weird appliances whose future development has been hinted at here as an interesting—and harmless—subject for speculation.

The apparatus relied on was mostly improved pumps, and six lifting

lighters, converted from hopper dredges, and capable of supporting a strain of 2,000 tons with 3-inch wire cables.

One notable instance was where a collier was sunk at her anchorage at Rosyth, and they lifted her, her weight being 2,700 tons. That broke all records. The limit had been pronounced 2,000 tons. The collier was soon in use again, as good as ever.

The case of the *Laurentic* is another of special interest, because it involved the rescuing of bullion valued at \$9,500,000. The divers, working at a depth of 23 fathoms, forced the strong-rooms with explosives, and then passed up the treasure.

Our Part in It

BUT the thing about this wonderful record of the Britishers which few Americans realize is that the United States Navy played a very substantial part in it. The recent arrival at Brooklyn Navy Yard of *U. S. S. Favorite* from overseas drew nothing more than a paragraph in the newspapers, and yet the *Favorite* and her crew had spent a year doing work that was simply one long thrill.

I know, because I went over to the Navy Yard and met Capt. N. E. Cook, her commander, and sat for two hours in his cabin while he told me, in matter-of-fact tones, of exploits that compare in danger and difficulty with any you can find in all the stories of the war. It was a tale of daring and of engineering skill. He told of sinking ships kept afloat in the midst of raging storms; or burning ships sunk to put their fires out, and then raised; or days and days when the whole crew went without food or sleep, hurrying from one spot to another in the worst weather the Bay of Biscay and the North Sea could muster, to pull one ship after another out of trouble; of exploits performed in cooperation with the British, and of the friendly rivalry in which each tried to excel the other; of boys in his crew who became men under that training; of a shipload of flour packed so tight that the sea water didn’t penetrate it, and the crew had white bread the rest of the season in consequence; of Christmas celebrated when they finally landed in France, late in January, and of the way they fed upon on duck, turkey, and plum duff.

It was an Odyssey of the war as truly as any tale from the fighting line. And yet an official report runs something like this: “*U. S. S. West Bridge*, Naval Ship under NOTS, Shipping Control. Was torpedoed August 24, 1918, in long. 46-50” and was towed to Brest, France. Arrived August 27, 1918. . . . Was hit with two torpedoes when she was brought into Brest, and was beached on Pugastill Flats. Went to work putting on patch of lumber and concrete 18 feet by 84 feet. Pumped out and finished unloading flour,” etc. This was (Continued on page 48)



The Outlet Abroad

Our Treasury announces that no more government loans will be made so that Europe can buy here—the Edge Bill will enable American exporters to join their strength and extend the demand for our surplus

WHEN the keeper of the purse-strings grows severe and frowns mightily all of us have to take notice. The Secretary of the Treasury has now become outspoken. To the extent Europe needs raw materials, machinery, and the like from the United States in order that it may get to work, the problem of financing the restoration of Europe, the Secretary declares, belongs primarily to our exporters. Loans from our treasury to Europe, in order that Europe may buy here, he says are at an end.

"To our industrial concerns will fall the profits of exports and upon them will fall the consequences of failure to make exports. So soon as domestic stocks, which were very low at the time of the armistice, have been replenished, those industries which have been developed to meet a demand for great exports, paid for out of government war loans, will be forced to close plants and forego dividends unless they maintain and develop an outlet abroad. The industries of the country must be brought to a realization of the gravity of this problem, must go out and seek markets abroad, must reduce prices at home and abroad to a reasonable level, and create or cooperate in creating the means of financing export business."

The Edge bill, which had reached its final stage in Congress when the Secretary published his point of view in his annual report, may enlarge the means for financing export business. It is a question of enlargement, for we already have some facilities.

All to Do Their Part

INSTITUTIONS organized under state laws and private bankers, of course, do their part, and in corporations organized under state laws to do a foreign banking business, and willing to agree to follow regulations of the Federal Reserve Board, large national banks may buy stock to the extent of 10 per cent of their capital and surplus and smaller national banks during the next 12 months may make similar investments to an amount equal to 5 per cent of their capital and surplus. Besides, national banks with appropriate resources may grant their six-month acceptances upon bills of exchange against exports, and when these acceptances have 90 days to run they may be discounted with Federal Reserve Banks. In accordance with legislative permission given to large national banks in 1916, one has opened a very considerable number of branches abroad and another has made a beginning. Some important national banks have preferred to increase the representation they have abroad through foreign banks. All of this has helped. Our bond houses, too, have marketed here some securities of foreign governments.

The government itself may help in some incidental ways. The Treasury may still, if it sees fit, grant loans to foreign governments in the amount of \$500,000,000, the War Finance Corporation will continue for at least a year to have authority to make advances against exports for terms as long as

five years and to the amount of a billion dollars, the War Department can sell surplus stores to Europe on credit, and the federal wheat director can sell wheat to Europe on credit.

The Treasury, of course, takes the position



that it will make no further loans. At the same time, it says that the War Finance Corporation is beginning to use its authority to make advances against exports; the Corporation's own statement on December 3 was that it has actually as yet advanced no funds but has granted some applications and some transactions have been financed by bankers who relied upon the fact that the Corporation would now give assistance if it was desired. The Corporation's position seems to be that it keeps available potential governmental aid for use in the event banking facilities are not developed to extend sufficient credit to prevent collapse of our foreign trade. Meanwhile, the Corporation has found its largest activity in serving as the government's dealer, supporting the market for liberty bonds, having in the last year purchased bonds in the market to the value of \$1,030,000,000 and sold to the Treasury, as it had funds, \$841,000,000 of them.

As for the activities of banks and the private agencies, they are largely devoted to short-time credits. The thing that is needed to help overcome the premiums caused by exchange is long-term credits for purchasers in foreign countries. The premiums paid on December 6 by persons in European countries in changing their money to dollars with which to buy in the United States were:

England, 20 per cent.
Belgium, 96 per cent.
France, 99 per cent.
Italy, 145 per cent.

Mere enactment of the Edge bill and organization of such companies as it authorizes will not restore exchange to par. Through these companies, however, respon-

sible purchasers will be able to get loans in American dollars to use in buying materials and equipment now, with opportunity to repay at a later time when exchange has returned more nearly to its normal level and their sterling, francs, lire or other foreign money is accordingly worth more in terms of the American dollar.

The corporations to be organized under the Edge bill can grant long-term credits. In other words they will be an investment business. They can also do a commercial banking business. Probably a corporation will confine itself to one or the other sort of business, or at least will have separate departments. If these corporations come up to expectations, they will enable us to make a right-about-face in international finance. Before the war we were familiar enough with the means for placing American securities abroad. Those were the days when we were borrowing in Europe means to increase our production. The legislation now in process is intended to enable us to reverse the process,—to lend money to Europe to enable it to meet its requirements and to increase its production.

In principle the operation looks simple. A corporation organized under the Edge bill will make a loan to a European applicant against security which it considers adequate. The proceeds of the loan the European can then use to pay for purchases in the United States. The security taken for the loan the corporation can sell directly in the United States, with or without its own guarantee, or it can place it in trust to secure bonds of its own which it sells here. In all of these operations it will act under supervision of the Federal Reserve Board.

To form such a corporation, five or more persons will enter into articles of agreement and will state the name they select for their company, the places where it will operate (which may be in dependencies and insular possessions of the United States, as well as in foreign countries), the location of its home office in the United States, the amount of its capital stock,—which cannot be less than \$7,000,000,—and the number of shares into which its stock is divided.

The Corporation

THESE papers, properly attested, will be filed with the Reserve Board, the approval of which is a condition precedent to further procedure; if the Board approves, it will issue its permit to do business, and thereupon the association becomes a body corporate for 20 years, with power in the Board to grant renewals of the period upon receiving an application in which two-thirds of the stockholders join.

Such a corporation will be an American institution. All of the directors must be citizens, and a majority of the stock must at all times be held by citizens or by American corporations controlled by citizens. A minority interest in the stock, however, might be held abroad.

A corporation so created has a federal

charter. In 1916 when legislation first permitted the larger national banks to hold stock in corporations engaged in international finance no provision was made for federal charters. Consequently, all of the dozen corporations in which national banks now have an interest,—such as the Mercantile Bank of the Americas, the Foreign Credit Corporation, the French-American Banking Corporation, the Asia Banking Corporation, and the First National Corporation of Boston,—are organized under state laws.

There is some inconsistency in national banks,—which are federal corporations,—holding stock in state corporations, even when the latter through an agreement have undertaken to abide by the regulations of the Reserve Board. Federal corporations can be made more directly responsive to the Board's supervision, and there will be no chance of conflict with state banking departments. It is argued, too, that federal corporations will stand better abroad. Finally, a banking corporation organized under the laws of one state sometimes encounters practical difficulties in doing business in another state. A corporation of a suitable kind and size already in existence under state laws will be able to convert itself into a federal corporation without undergoing reorganization. A federal charter, however, will not give freedom from local taxation. A federal corporation will be subject to taxes in the state where it has its home office as if it were organized under the laws of that state, and shares will be taxable to shareholders to the same extent as shares of state corporations organized for similar purposes.

The kind of corporation probably of most immediate importance is the investment corporation, but other sorts—all in the field of "international or foreign banking or other international or foreign financial operations"—are possible. A holding corporation is possible, to own foreign institutions, or American companies engaged in foreign banking, or both.

Reserve Board Must Approve

ACCCEPTANCE corporations, discount corporations, and other specialized institutions in the broad field of financial transactions between the United States and the rest of the world may come into existence as federal institutions, by virtue of the bill—always on condition that the Reserve Board accords its approval. The probable tendency will be for the corporations to divide into no more than two classes—those doing a general commercial business in relation to our foreign commerce, including discounting and the giving of acceptances, and those that provide long-term credits, the investment corporations.

Whatever the type of the corporation, it is to stick to its own knitting and not compete in the domestic field with our present banking system. For example, if it undertakes commercial banking, it can receive deposits in the United States only when they relate to international transactions, such as a deposit to pay for exchange that is to be purchased or to provide funds to meet an acceptance the bank has given. The differentiation of the new corporations from our present banking system is apparent in their inability to become members of the Federal Reserve Banks.

The fundamental purpose of the Edge bill causes the new corporations to have certain express powers within the United States. Although they may not have branches in the United States, they may establish agencies

and have correspondents wherever they like. Through a system of agencies and correspondents, they will obtain money here with which to make their foreign loans, and will do this for the most part by selling their debentures, bonds, or notes, which a corporation may issue, subject to the Reserve Board's supervision, until its liabilities in this direction reach 10 times its capital and surplus.

The federal corporations organized under the Edge bill, it will be noticed, may acquire stock in other corporations, foreign or domestic, including other corporations organized under the Edge bill. To this power there are some restrictions. The investments in other corporations are subject to the Reserve Board's control. Before investing in any one corporation more than 10 per cent of capital and surplus a corporation will have to obtain the consent of the Reserve Board.

Barred From Domestic Trade

IT will not be allowed to invest in any American corporation, federal or state, which transacts any business in the United States that is not merely incidental to foreign business or with which it is in substantial competition, except in so far as it may acquire stock in protecting a debt and dispose of it within 6 months. It will have to avoid ownership in any concern engaged in the general business of buying or selling merchandise or commodities in the United States, and it is not directly or indirectly to control or fix the price of any commodities. A corporation existing under the bill will, therefore, not be able to have stock in a United States steel works or woolen mill but, for example, if itself engaged in commercial banking in connection with exports of raw cotton, it might be interested in a cooperative export company organized by textile manufacturers under the Webb law or in a federal corporation that was lending money for terms of five or ten years to French textile mills on mortgage security.

How the new corporations will be related to our industries will appear only through developments. The Governor of the Reserve Board believes that Americans interested in the export of our great staples will form groups and that there will be separate federal corporations for coal, copper, cotton, and the other great staples; the cattle men of the West have shown interest in forming a corporation that would assist them in exporting live stock. At the same time, there may be corporations devoting themselves to financing in connection with general exports. According to the bill, any five persons may proceed to form a corporation and there is no suggestion that stockholders should be engaged in the same kind of business.

National Banks Not Necessary

NEITHER is it necessary that national banks should be interested in each of the new corporations. Their participation is merely permissive, and depends upon their initiative and the approval of the Reserve Board; indeed, with the Board's approval national banks will be able, if they prefer, to avoid federal corporations and continue to invest in state corporations organized for foreign banking. If national banks with capital and surplus of \$1,000,000 participate in Edge-bill companies they may be allowed to invest 10 per cent of capital and surplus in federal corporations, and for the next 12 months even the smaller banks may invest 5 per cent. The purpose of the latter provision is to enable the banks to lead the way

in their communities in creating sentiment that will give a broad market for the securities of the new corporations. This is a purpose which the War Finance Corporation may also serve; for it may follow the same plan as with public utilities during the war, by subscribing for a part of an issue and thus showing its approval and making it easier to place the balance with private investors.

National banks having capital and surplus of \$20,000,000 or more will be able to own all the stock in a federal corporation, if they prefer individual control. New York City, Boston, and Chicago have national banks of such size that they might have their own individual foreign finance corporations.

The Edge bill generally proceeds upon the theory that the new corporations will meet many special circumstances in other countries. Accordingly, they are, in their operations abroad, left very largely free to follow the requirements of foreign laws. At the same time, they are subject to very broad powers of supervision and regulation by the Reserve Board. Even when the bill contains specific provisions, they may be increased in severity by the Board; for instance, although liabilities on bonds issued may not exceed 10 times capital and surplus the amount may be reduced by the Board. Against such deposits as may be received in the United States the reserve is to be 10 per cent but may be increased by the Board. Capital stock must be paid up quickly after organization, and may not be impaired. Dividends may be declared semi-annually out of net profits but one-third of the half-yearly net profits must first be carried to surplus until surplus equals 20 per cent of capital.

In general the Edge bill represents an attempt to provide machinery through which our great financial strength may become active abroad and become available in the diverse activities which financial institutions in such countries as England have developed over a period of many years. The possibilities are great; in practice they will scarcely appear over-night after the bill becomes law, but will gradually come into view in accordance with the initiative and wisdom that is shown by all concerned.

Needed—Thrift!

THE economic salvation of the world depends upon America's ability to furnish credits to the nations of the Old World, and this in turn depends upon the savings of the individual.

During the war many persons learnt the value of the dollar while others became spendthrifts. But business men all over the country realize that until all persons learn to spend judiciously there can be no general state of prosperity, and without it the United States cannot control world business. A large committee of prominent business men is now promoting a National Thrift Week.

The program of the week, which begins January 17, Benjamin Franklin's birthday, is based upon a financial creed, the precepts of which are:

1. Work and Earn; 2. Make a budget; 3. Keep a record of expenditures; 4. Have a bank account; 5. Carry life insurance; 6. Make a will; 7. Own your own home; 8. Pay your bills promptly; 9. Invest in government securities; 10. Share with others.

On every day of the week some special phase of this creed will be emphasized. With industrial and economic conditions in chaos, it is important that sound economic doctrines be taught in all walks of life.

Cornering the Eight-Hour Day

It sounded quite simple when the Peace Conference mentioned it, but when the nations gathered in Washington they discovered it to be infinitely complex

ERNEST H. GREENWOOD

Deputy Secretary General, International Labor Conference

HOW many hours are there in an eight-hour day? Are there eight, nine, ten or twelve? And how many hours are there in a forty-eight-hour week? Are there forty-eight or fifty-six?

There in a nutshell are two burning questions over which representatives of forty nations have spilled page after page of oratory in the International Labor Conference in Washington at the first formal function held under the League of Nations. Offhand it seems like a simple question. But those who have attended the plenary sessions find their heads in a whirl at the intricacies of what is apparently a problem in first-grade arithmetic. Listening to the various views presented breeds in one a spirit of infinite caution. Any one who has listened to the debates of the first two or three weeks and has heard something of the dozen divergent views will go slow about stating emphatically that two and two are actually four.

When the Peace Conference at Paris provided for an annual labor conference on the part of the various nations they undoubtedly had in mind some sort of a peace-making institution. Their intention was good. It is also quite likely that their hopes will be fulfilled. But it is also certain that the peace they are after will only be attained—like any other peace—after considerable of a fight.

It Sounds Simple, But—

CONSIDER the situation, for example, that has developed with regard to the eight-hour day:

Among the five subjects laid down by the Peace Conference at Paris for discussion at the first conference was that of the "Application of the Principle of the Eight-Hour Day or the 48-Hour Week." Read those innocent words again. The language is simple, is it not? Yes and no. Accept the word of an interested but unbiased spectator who will never again admit that anything is simple.

A peculiar thing about the eight-hour day is that everybody wants it. That labor wants it is not remarkable, for it has been agitating to that effect for sixty years. But the employers want it also. There are present in the conference big business men, manufacturers, captains of industry if you will, from twenty-three different countries. Every one of them seems to want the eight-hour day, but none of them seem able to agree on just what it is. Like advocates of Christianity, they can get together on the ten commandments, but apply them through forty different creeds.

I have said that no one seems to be able to agree. It is really not quite as bad as that, for out of the chaotic divergence of opinion which might be expected from the representatives of the forty nations, there are gradually emerging three principal views which represent roughly the general sentiment of labor, employers and government respectively. Of course, not all the employers think alike. Neither do all the govern-

ment or labor men think alike. But nevertheless there is a consensus of opinion in each group.

Among the labor men, for instance, there is a pretty definite idea that an eight-hour day means just the eight-hour day—a day of eight hours six days a week, except possibly on Saturday, when it is a four-hour day.

Mr. Barnes' Idea of It

IN the other hand, there are men who agree with Mr. George N. Barnes, himself a trade unionist and engineer but now the chief representative of the British government and a member of the Lloyd George cabinet. Mr. Barnes thinks that it means an *average* eight-hour day. In other words, a forty-eight hour week in which some working periods may be nine hours or more long but in which a Saturday half holiday may bring the average down to eight.

"It is true," he says, "that an eight-hour day, if spread evenly over a week, makes a forty-eight-hour week. But there is no reason why it should be spread evenly over *every* day in the week if industries can be best served otherwise. For instance, there is laundry work, which as I know and all of you know, has its busy spell in certain days of the week, and I should provide for it accordingly. Again, there are some countries in which Saturday afternoon work is unknown. I should make provision for that by a longer working day in the days preceding Saturday, and therefore I put the proposition in the form of a forty-eight-hour week instead of an eight-hour day."

Mr. Barnes argues that the application of the *principle* is the important thing and not the arbitrary laying down of a hard and fast rule. According to his viewpoint it is of small importance to the worker whether or not he puts in thirty minutes overtime one day, provided he is compensated for it upon some other day. Mr. Barnes is a working man himself and is in full sympathy with the desire of the labor man for greater leisure for the masses. But he is equally anxious to avoid holding the employer to a rigid clock-punching schedule where he is likely to be haled into court for every petty infraction and where fifteen minutes' overtime may make the difference between a good citizen and a criminal.

There you have two definite and conflicting conceptions which for want of a better name we may call the *absolute eight-hour day* and the *average eight-hour day*. One says that you can have the eight-hour day by checking up every night. The other says it is only practicable if you check up at the end of the week and strike an average. One view is put forward by labor men and the other is fathered by an ex-labor leader who happens for the moment to be a government official.

But employers say neither proposition is practicable and they claim that Mr. Barnes admitted as much when he included in his

scheme an allowance of 150 hours per year overtime. That proposal has also been a target for labor snipers in general. They say it means an average of three hours more per week and really is a fifty-one hour week. They interpret it in general as merely a tentative proposal of a basis for compromise with the employers. In this they are probably right.

Mr. Barnes is a strong man who never dodges the issue. But he is a soothing sort of person who catches all his flies with molasses. He is speaking for the governments and has undoubtedly sized up both the labor and employers proposals and tried to strike some sort of compromise. His 150-hour clause is a bid for peace. And, like most bids for peace, it has started something of a fight. What the labor men say about it is a plenty.

Employers, on the other hand, say that this 150-hour clause is simply a tacit admission that the 48-hour week will not work. Mr. Marjoribanks (he pronounces it Marshbanks), who represents English employers, has more than once raised his voice in protest against what he considers "an unwarranted restriction of the hours of labor." Mr. Marjoribanks rejects the eight-hour day altogether. And he accepts the 48-hour week only in the sense that Mr. Barnes accepts the eight-hour day—that is in principle. He rejects the absolute 48-hour week, but is willing to accept it as an average. He would permit excesses in one week to be made up in another and would permit, in addition, as much as 300 hours overtime per year.

An Advocate of Caution

MR. MARJORIBANKS states in support of his argument that the general or sudden introduction of the eight-hour day will throw certain industries into chaos. He insists that there are certain businesses, principally manufactures, which can never in their very nature be operated upon an absolute eight-hour basis. Industry, he points out, is not a thing that can be operated at the whim of those in control of it. In some special industries the pressure comes at particular seasons, so that hours of work are at some time extraordinarily short and with other extraordinarily long. Sometimes, he says, the hours of work are indirectly limited by our lack of advancement in science. In the chemical trades, for instance, there are certain chemical reactions which require a certain time to occur, and there is no way in which they can be hastened. Neither master nor man can at present hurry those processes, and until modern science shall have devised ways for hastening them labor must be content with the present situation.

Employers say also that this question must be considered in the light of its effect upon production. They size up the present world problem as primarily one of increasing the

amount of goods produced. They reason that the world has been on one grand destructive tear for five years and that it must sober down and work hard until it catches up. Twelve hundred billion dollars of wealth has disappeared, according to their figures, and it must be brought back before we can be even as well off as we were five years ago. Their advice to the world seems to be like that of the small boy who put the ostrich egg in the hen's nest with a penciled injunction to keep her eye on that and do her best. The European manufacturers say that we must keep our eyes on the 1,200 billions, work like blazes, spend as little as possible, and keep on doing both. They, therefore, say that the eight-hour day must be applied only to those industries in which no loss in output will be experienced.

Some of them have even expressed a willingness to try it out with the understanding that the deal will be called off if it proves disastrous to output. There are some industries, they say, which are the actual keystone of world economic life. These must be considered as if they were war industries and the men in them almost as if they are soldiers.

How About Farming?

THERE are even some who say that so long as we have any industries of this character the eight-hour day is an impossibility. This comes near home, for the argument is especially applicable to America. It is put forth by the delegates of Canada, the nation whose industrial life and customs most closely resemble our own. These men point out that the proposals include industry alone—not agriculture. They say that it is all very well to talk about farming and manufacturing being distinct businesses, but we must take into consideration that the unskilled labor supply for both comes from the same reservoir of floating labor. Anything that affects one will affect the other.

Listen, now, to the argument of Mr. Parsons, of Canada, as to what is likely to happen if you introduce an eight-hour law in industry and not on the farm.

"In Canada we have a shortage of manpower on our farms; everywhere our farmers are crying for more help and they can't get it. And what is the consequence? A great loss of production and higher prices. We talk about profiteering; profiteering is only a symptom. There would be no profiteering if there were plenty of production the world over. It is a shortage of production that is responsible for profiteering. And what do you do to the farmers when you bring in a short working day in manufacturing industry? You simply draw, as by a magnet, the workers from the farms into the towns and cities because of the shorter hours, the higher wages. Who will suffer on account of the resulting shortage of foodstuffs? The workers themselves, because of shortage and higher prices."

How much truth there is in this argument is difficult to say. Our own experience during the war lends some color to the theory. The Polish delegates say that the law in their own country has already been applied to agriculture in order to prevent any such rush to the cities.

To all of these arguments labor, of course, has its reply. On the matter of production, Mr. Baldesi, the Italian labor leader, says that the problem is only temporary. The effect upon production need not be considered in the light of a permanent settlement if we

are to take the present situation into consideration. He says it may be necessary to make some special provisions for the near future. But underproduction is purely temporary. Normally, the world, Baldesi says, produces plenty of goods. It is difficult to follow his reasoning at this point, for one always has a sneaking suspicion that until every human being shall have all the goods necessary to his material comfort and advancement there will be underproduction.

Maybe Mr. Baldesi is thinking in terms of mere necessities, but the world does not advance very far on mere necessities. The luxury-consuming nations are the nations which succeed—that is, if one considers the word luxuries not in the sense of waste but in the sense of commodities which become necessary as civilization advances. For instance, bathtubs and underwear were luxuries a few generations back. Knives and forks are not unusual today, but Queen Elizabeth had to lick her fingers after every meal. What are luxuries to us will be necessities to our grandchildren. There will always be a shortage of production in that sense. Baldesi is probably thinking in terms of a bare living and is undoubtedly right.

What appears upon the surface to be a rather telling argument is the reply of the workers with regard to particular industries which the employers claim can never be operated except upon a longer basis than eight hours. They claim that the employers' argument in this respect has been shown to be fallacious in practice. In particular they bring up the argument of American steel manufacturers, who for many years held that the industry, being a continuous one, must necessarily operate upon a two-shift basis.

How It Worked Out

THE steel industry, they say, was for years a classic example among opponents of a shorter working day. Elaborate arguments were formerly introduced to show the impracticability of those who wanted to put it upon a three-shift basis. Labor men say that they were waved aside as theorists and visionaries when they urged the change. They were told that it had been conclusively proved that such a change would wipe out the industry. They triumphantly point out, however, that the argument made in America was being made in Europe at the same time. Yet in Europe, they allege, the change has already been made. Steel manufacturing in many countries is now a three-shift industry instead of a two-shift and no one is any the worse off. The eight-hour day, according to their claims, has been proved to be just as productive as the twelve-hour day was formerly. As a matter of fact, they insist that there is an actual gain to the employer for he can crowd into a single day three working days, each of which is as productive as the twelve-hour period was before, thus increasing the output of any plant 50 per cent without adding to its equipment.

When one quotes these arguments to employers they smile enigmatically. They say that while the statement is true in general it is a bit enthusiastic. But they point out a three-shift day is not a forty-eight-hour week—not by eight full hours—for continuous-shift industries must operate seven days per week. To this workers respond that there must be a fourth shift, which will enable workers to have a weekly holiday.

The point brought up by the workers with regard to the steel industry really brings to light a disputed point, a settlement of which

would decide the whole controversy: Is or is not the eight-hour day more productive than the nine- or ten-hour day? Labor men say that it is. Employers say it is not.

Mr. Louis Guerin, a very wealthy French employer who, by the way, represented the American Government in provisioning the occupied area in France, and who is himself a figure of national importance in the French textile industry, says that the introduction of the eight-hour day in France caused a 20 per cent fall in output. Mr. Jouhaux, the secretary of the French Federation of Labor, who is in the habit of watching Mr. Guerin with about as friendly an eye as Mr. Gompers watches Judge Gary, says that Mr. Guerin has not a fact to back him up. As a matter of truth both of them are stating mere opinions. Neither has a fact.

Now listen to Samuel Gompers:

Mr. Gompers' View

"IT is a fact which all history of industry bears out, that there is more produced by the workmen, everything else being equal, in an eight-hour day than in a nine-, ten-, eleven- or twelve-hour day. I want to repeat this statement if I can, so as to make it plainer. That everything else being equal, without improved machinery, without any additional driving force or power, a man working in a factory or other establishment eight hours a day will produce more than in another establishment under the same conditions if those workmen in that establishment work ten or twelve hours a day. The fact is that if you want the best that is in a workman in the least possible time, then work him about forty-eight hours continuously and he will be all in. If you want the best that is in a workman for a period of six or eight or ten years, you will work him ten, eleven or twelve hours a day. But if you want the best there is in a workman covering a long period of years, you will impose no more than an eight-hour day."

Now, contrast Mr. Gompers' statement with Mr. Guerin's with regard to his experience in France: "Not only production hasn't been maintained on the same level, but every hope we have, every promise that had been honestly made, has been proved to be false. Production has decreased in the same ratio as hours of labor; that is to say, to an extent of about 15 to 20 per cent."

These men are apart with regard to facts, not with regard to opinion. The whole row is very much as if employer and employee were agreed on how much wages the employee should receive, but could not count the bills in the pay envelope to the same total.

I am inclined, after hearing all sides, to think that everybody is a bit wrong and that everybody is partly right. But since everybody is without facts to back him, everyone seeks to reinforce his position with noise.

Fundamentally the reason each side is so tenacious of its views, notwithstanding it has so little to back it up, is that each is primarily interested in a different thing. The workers want leisure. Business men want production. The workers say that they must have leisure and that if the present organization of industry does not make it possible to grant that leisure, there must be better organization of industry. There must be better development of machinery.

On the other hand, employers are just as shifty. Where they are on debatable ground they talk feelingly of greater leisure for the workmen and the beauties of the education

(Concluded on page 60)

Our Fleets and the Future

The United States from Bath to San Diego has at last roused itself to the necessity for a merchant marine, and business men are weighing plans for disposal of government ships

By N. SUMNER MYRICK

Vice-Chairman and Counsel, Ocean Transportation Committee, Chamber of Commerce of the United States

DURING the war, the United States Government, through the Shipping Board and Emergency Fleet Corporation, became owner and operator of tremendously important tonnage. This will form the nucleus of a splendid new merchant marine, provided the ships can now be properly disposed of and adequate legislation made to attract marine investment. The obligation is upon Congress to deal with the subject in a truly comprehensive fashion, covering in one act all the varying needs of the case. The desirability of selling the Government vessels to private interests is generally recognized, the larger ships to Americans and the smaller to whoever will buy them, regardless of the flag under which they are to sail. But the difficulty in attempting adequate legislation is that, generally speaking, no one knows much about the subject. Probably not a single member of Congress has had actual experience in international sea commerce.

After all this is not so surprising. Although we have a coast line extending for thousands of miles, have had for years a coasting tonnage of large proportions, and have always been one of the greatest of the exporting nations, we are truly not a maritime people. Prior to the war few men in the United States could have qualified as ship operating experts in overseas commerce. The great majority of our shipping men have been concerned only in operating steamboats and coastwise steamships.

We need and lack, therefore, a substantial keel upon which to erect our legislative ship. The bills that now grapple with the subject are explained below, supplemented by the recommendations of the Ocean Transportation Committee of the United States Chamber of Commerce. Out of these various projects for the establishment and maintenance of a merchant marine commensurate with the importance of the United States as a trading nation it is to be hoped there will be evolved a reasonably effective solution.

What Senator Jones Proposes

LET us turn first to the measure known as the Jones bill. Senate Bill No. 3356, introduced by Senator Wesley L. Jones, of Washington, chairman of the Senate Committee on Commerce, provides for the appointment by the President of "nine men of high standing in their profession, business or work," three of whom shall come from the Pacific Coast and Rocky Mountain section, one from the Gulf section, one from the Great Lakes section, two from the Atlantic Coast section, and two from central sections; to be created a body politic under the title of "The United States Merchant Marine Corporation," with its principal place of business in Philadelphia.

The corporation is to have no capital. The persons thus appointed, and their successors, also to be appointed by the President, are to

constitute the Board of Directors, and are to serve as such for a term of eight years, except that the first appointees are to serve, one for one year, two for two years, two for four years, two for six years, and two for eight years. Any director may be removed by the President upon filing a notice stating the reason for such removal. The compensation of a director is to be \$25 a day while actually employed on the business of the corporation, together with travelling expenses and \$10 for subsistence while away from home. The directors are given the usual powers as to the employment of agents and determining their compensation.

The corporation is empowered to construct, sell, operate, lease or otherwise dispose of such property as may be necessary for the corporate purposes; establish within or without the United States, port, terminal and warehouse facilities, coal or oil bunkers, and do all things necessary to develop ultimately in private ownership an adequate merchant marine.

To Transfer Ships and Property

TO this corporation are to be transferred all the merchant vessels acquired by the United States and all the property of the United States Shipping Board and Emergency Fleet Corporation, all of which is to be disposed of by the directors, as soon as it reasonably can be done, "upon the best terms possible, and in the way which the board may deem best to secure the greatest possible return to the Government." Pending the final disposition of the ships the corporation is to use them "to establish, maintain and operate such new shipping lines as it may deem desirable," except that it "shall not operate any of its ships in competition with regularly established American shipping lines." All the vessels of the corporation as to officers, crews and operation are to be subject to the laws affecting shipping under private control, except that in foreign ports they are to be deemed public vessels of the United States. Public vessels of other nations are to be accorded the same treatment in our ports as such nations accord our public vessels.

Provision is made for the extension of the coastwise laws to the Virgin Islands, the Sandwich Islands, Guam and the Philippine Islands, and the corporation is directed to establish adequate steamship service therewith at reasonable rates, until such service can be taken over by private enterprise.

The Interstate Commerce Commission and the Shipping Board are directed to require all rail carriers having port terminals and steamship lines operating from such ports to make adequate arrangements for handling through freight, and to establish through export rates, and it is declared to be the duty of the Shipping Board to ascertain what steamship lines and postal service should be maintained between ports of the United

States to such markets as will promote our foreign trade and an adequate postal service, together with the cost of such postal service, and the type and speed of the necessary ships. Upon filing its report with the Marine Corporation, the latter is authorized to establish such service and maintain it through private agencies, and if this can not be done, then by the use of its own ships until the service can be taken over by private parties.

Having ascertained the need of ships between the terminal of the Government railroad in Alaska and Pacific Coast ports, if such need can not be met through privately owned ships, the corporation is directed to furnish suitable service until the same can be provided by private enterprise.

After the passage of the act the Shipping Board and the Emergency Fleet Corporation shall return all ships and other requisitioned property to the owners thereof, and all property claimed by the United States shall pass to the corporation, with authority to adjust all claims for compensation and complete all construction that the directors may deem advisable.

The Shipping Board is directed to ascertain the need of American officers and able seamen, what apprentices should be carried upon American ships, what schools of training should be maintained, and the corporation is authorized to carry out the recommendations of the Shipping Board. The Shipping Board is directed to submit to Congress its recommendations for other legislation needed to supply a sufficient number of officers and men to officer and man our merchant marine. The bill in its concluding section directs the President to abrogate the provisions of all treaties that restrict our right to impose discriminating duties on imports carried in American ships. Practically all the war emergency legislation, and the provisions of the Shipping Act conflicting with the provisions of this act, are repealed.

In Opposition There Is—

OPPONENTS of the Jones bill find more to their liking in the Greene bill. Like the Jones bill, the Greene bill authorizes the sale of the Government-owned ships, but by the Shipping Board instead of by a corporation formed for this purpose. Under the Jones bill the sale is to be made in the way which may best secure the greatest possible return; under the Greene bill, with reference to the market price, demand, cost of similar vessels, and cost of the vessels to be sold.

This bill, reported out of the House Committee on Merchant Marine and Fisheries by its chairman, Hon. William S. Greene, of Massachusetts, has passed the House and is now pending in the Senate. By it the Shipping Board is authorized and directed to sell, as soon as practicable, to citizens of the United States (including corporations controlled by citizens of the United States), except such vessels as the Board may deem

unnecessary for an efficient merchant marine, all vessels built or acquired during the war, the prices to be determined as stated, the payment to be made within a period of ten years. The Shipping Board may sell to aliens such vessels as it may deem unnecessary to the promotion and maintenance of an efficient merchant marine.

Provision is made for the insurance of the Government interest in vessels and other property in cases of deferred payment, and the Shipping Board is authorized to create out of net revenue, accruing from operations and sales, a fund for such insurance, in connection with which there is to be maintained such surplus as may be required by the best actuarial practice. Vessels remaining unsold are to be subject to the provisions of the Shipping Act of 1916.

The net proceeds derived prior to July 1, 1920, from any activities authorized by the act, or by the Shipping Act of 1916, save such as may be withheld as operating capital, or for the insurance fund, may be expended for constructing, requisitioning or purchasing vessels. After July 1, 1920, the net proceeds, except operating capital and the insurance fund, and the net proceeds from all other sources, including investments, shall be transferred to the Treasury as miscellaneous receipts. Except as otherwise provided, the authority vested in the Board by the act may be exercised by the Board, by the Emergency Fleet Corporation, or other agencies created by law. War emergency acts affecting shipping are generally repealed. Other stipulations, not so vital, must be omitted here.

Business Will Be Heard

THE Committee on Ocean Transportation, appointed by the Board of Directors of the Chamber of Commerce of the United States to consider the question of a merchant marine, has submitted its report to a referendum of the members of the National Chamber, referendum No. 29. After determining that the national interests of the country require a merchant marine under the American flag, it recommends that all ships owned by the Government should be sold, those of 6,000 tons deadweight and above to American citizens, upon payment of 25 per cent in cash and the remainder in notes secured by a mortgage, bearing interest at 4½ per cent, and payable in fixed installments apportioned over a period of twenty years, with provision in the mortgage for a sinking fund to amortize the indebtedness within such period.

As there is a larger number of ships of less than 6,000 tons deadweight than can be profitably employed in the coastwise or West Indian trades, to which they are adaptable, the committee recommends that this surplus, and all the wooden vessels, be sold for the best price obtainable to either foreign or domestic buyers.

To effect a wide distribution of the ships suitable for overseas commerce, the committee recommends that the Government invite the formation of associations to represent the different maritime sections of the country, open only to American citizens. These corporations could be developed under the encouragement of local, state and city authorities, Chambers of Commerce and other similar organizations, to act as intermediaries in distributing the ships among corporations and individuals in their respective districts, beside assisting the purchasers when necessary in procuring capi-

tal. Ships would thus be widely distributed and so placed as to render likely the establishment of a permanent merchant marine.

If any association should fail to purchase its entire quota, the other associations could have the privilege of purchasing the unsold ships in the proportion of their original allotments. If, finally, there remained any undisposed of, they could be taken over under charter by the interests that have purchased ships, or operated by them on Government account. It is not contemplated that the associations should own and operate ships or make a profit.

As maritime investments heretofore have not appealed to American investors, the committee feels that some inducement should be held out to insure a wider distribution of such investments. It recommends that Congress give immediate consideration to the exemption of shipping from taxation, following the example of several of the states; to differential railroad rates on exports; proper absorption of demurrage charges as between railroad and sea carriers; Government agencies to cooperate with consuls in extending American trade and in encouraging shipments in American vessels; differential duties on imports carried in American vessels; increase in the present subventions paid under the mail compensation act, which in the past few years have saved large sums to the Government and been of very little advantage to ship operators; enrollment of officers and crews in a naval reserve and the payment to them of a wage that will lessen the wage to be paid by the operator, and such modifications of the navigation laws, without disturbing the fundamental features of the Seamen's Act, as may seem desirable.

The committee recommends that the Government terminate its program for building wooden ships, and that Government-owned yards for building steel ships be disposed of as soon as practicable. As to privately owned

should be done by private yards for private companies.

The committee does not suggest that aid should be extended to these shipyards, but believes that if sufficient aid is given to ship operators to enable them to conduct their business at a profit and to build their ships in American yards that shipbuilders will require no aid.

The fundamental objections raised to the several bills considered, and to the report of the Chamber's committee, is that they fall far short of comprehending the whole subject and do not comprise in a single legislative act all the steps that should be taken to provide for the encouragement and maintenance of a merchant marine. Some of the subjects that should logically be embodied in a comprehensive measure are dealt with in separate bills now pending, or are under reference to committees, while others have not even been considered. This haphazard method must accentuate the confusion and indefiniteness of our present navigation laws, many of which are confessedly archaic, when they are not absurd.

Some Weak Points

THE main objection to the Jones bill is against the provision that contemplates setting up another administration body, a corporation, to take over some of the functions that it has always been supposed would be performed by the Shipping Board. The objectors urge that the country generally will not approve of two bodies to perform duties that can easily be performed by one already established.

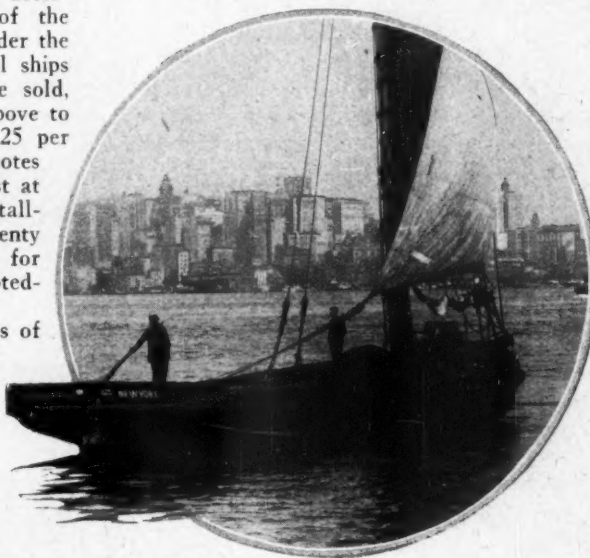
Aside from this primary objection, arises the question whether nine men of high standing, representing various sections of the country, can be found to serve their country in peace time at the remuneration already stated in the performance of duties arduous, exacting, and requiring technical knowledge of the subjects involved. Various other considerations, including the requirement that all sections of the country must be represented in the appointment of directors, at once suggests the probability of political influence determining the selection, with results easily predicted in the light of early happenings in the Shipping Board.

Again, under this bill, wide powers are given to the corporation in the purchase of property necessary to the shipping business, especially terminals, warehouses, coal and bunker stations, within or without the United States, even though the bill contemplates private acquisition of such property as a future possibility. It requires the directors to sell Government ships upon the best terms possible and in a way to secure the greatest possible return to the Government, a strictness of limitation that apparently is now being observed by the Shipping Board and is preventing the sale of ships.

Why should the Government retard the upbuilding of a merchant marine by private interests by distinguishing war emergency ships from any other war emergency factors or material that must admittedly be sold for very much less than it cost? It can not be expected that capital will be attracted to marine investment if its opportunity for a fair return in competition with less costly ships of other nationalities is restricted at the very outset.

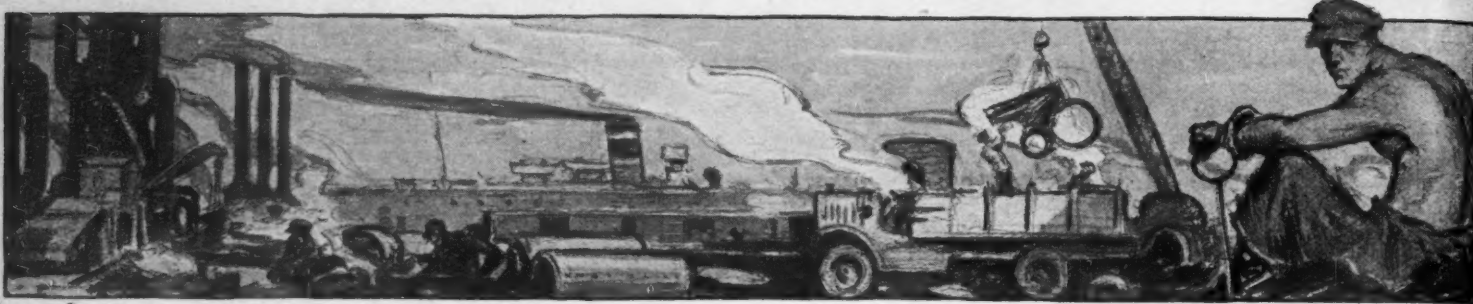
That the Government-owned ships, pending their final disposition, are to be used in the operation of new shipping lines under Gov-

(Continued on page 78)



© Underwood & Underwood

yards for building steel ships, the committee considers it most desirable that the Government should determine quickly and finally just what shipbuilding on Government account should be finished and what contracts cancelled. Beyond the completion or adjustment of existing contracts, and the closing down of Government-owned yards, it recommends that the Government should not be interested in shipbuilding, except for the naval establishment, and that shipbuilding thereafter



Beware of Coal Figures!

POOOR MATHEMATICS and coal seem to have a real amnity. Last summer British officials set their country by the ears when they suddenly announced an increase of \$1.50 a ton in the price of coal, and in justification displayed statistics that have since caused them some grief. At the end of November they as suddenly declared a decrease of \$2.50 in the price of coal, presumably bringing forth other statistics which may likewise be an ultimate source of repentance.

The bewildering connection between mathematics and coal has now been demonstrated in the United States as well. With the same figures and the same pencil the Secretary of Labor and the Fuel Administrator cannot reach the same result in a simple problem of multiplication, but the Fuel Administrator is entitled to a presumption of accuracy, because of his academic position. Thereupon, the Treasury took a hand, and contributed considerably to the statistical misunderstanding.

The Treasury's contribution was a statement about the profits made by coal operators. This statement by implication was a correction of an earlier declaration by a former Secretary of the Treasury; he asserted that "earnings on capital stock" of from 15 to 2,000 per cent were shown by income-tax returns for 1917. The Treasury's declaration is that all bituminous coal mines east of the Mississippi River had in 1917 average profits of 100 to 150 per cent on *invested capital*, and a range in profit between 15 and 800 per cent.

That a correction from a basis of "capital stock" to "invested capital" was essential would seem to appear from the figures themselves; for example, one of the companies which the former Secretary may have had in mind, as its data appeared in the compilation which he probably had before him, had in 1917 a capital stock of \$10,000 and invested capital of \$569,000. In other words, a return of 2,000 per cent on the capital stock would have amounted to 36 per cent on the invested capital—a rate of profit that may be large but which is not *prima facie* criminal!

It happens that in the summer of 1918 the Senate called upon the Treasury for data relative to profiteering and the Secretary responded with an elaborate compilation from income-tax returns for 1917, and expressly said he used data only from corporations which had shown profits, as measured by the income-tax law, of 15 per cent and more on capital stock. In other words, this compilation did not purport to show the results for all coal companies, and it is a pretty safe gamble to wager that, however exuberant profits may have been, every company did not show a net profit.

Earnings That Were Deficits

The Treasury's detailed statistics for 1917 are not yet available, but they have been published for 1916. In that year 203 coal-mining companies in Pennsylvania, or almost one-third, earned no net profits, but showed deficits; yet the Treasury says in its recent statement that in the latter part of 1916 all coal companies in the East began making money and their operations for the year 1916 generally show a profit of 10 to 35 per cent on the capital invested. The Treasury will have to devise some way to cause its different statements to assume at least a family resemblance.

Deviations in the Treasury's different statements arouse one's curiosity about the figures. In the report of 1918 to the Senate the Treasury presented figures of 343 coal companies in the Appalachian field. Since profits ranging up to 800 and 2,000 per cent

have been mentioned in official circles, one might reasonably ask how many and what sort of companies got the upper levels of these "fabulous profits."

According to the Treasury's own report to the Senate, 15 of the 343 companies had net profits of 200 per cent or more. Of these 15 apparently none was an important contributor to our coal supply. Not a one of the lot had as much as \$50,000 invested in the business. A company that had \$1,000 invested capital showed net profits of 315 per cent, or \$3,150; a company with an invested capital of \$1,161 reported 334 per cent, or \$3,877.74, and the worst of the lot reported 766 per cent on invested capital of \$4,692. The mines of such companies as these are obviously "snow birds" or little better; they were not the producers of coal that keep the country warm and turn its wheels.

These paragraphs are offered as contributions to the current statistical catch-as-catch-can contest. They do not prove that coal operators were not profiteers, in the event that fact would have present relevancy. So far as the operators obtained unusual profits in 1917, they at least divided the results with the Government; in that rather distant year, it will be recalled, they paid a tax of 60 per cent upon net profits exceeding 33 per cent of their capital.

The present paragraphs will serve their purpose, however, if they suggest that mere figures, without any thought for the circumstances they reflect, are about the most dangerous intoxicant left in the country.

Tonnage or Guns?

THE SEA LORD of England has been compared by our Shipping Board to the Director of Operations of the Shipping Board, greatly to the latter's advantage in point of tonnage commanded. It seems that the First Lord of the Admiralty can count up only half as much tonnage as the director of our merchant fleet.

These comparisons contain an intimation of a revival of the old controversy whether tonnage or guns count for more. As Mr. Dooley once remarked, when he looked unusually grave, that depends!

The Hunt for Revenue

WAR FORTUNES are to be sought out in England by a government committee. If it proves possible to define the fortunes which grew out of the war, and in spite of the excess-profits levy of 80 per cent, there will probably be a project to lay a tax on the principal and apply the proceeds toward a diminution of the war debt.

Such a plan, of course, is in principle a capital levy. As yet the government has not acceded to suggestions that the committee should inquire into the feasibility of a general levy on capital for the purpose of considerably reducing the war debt forthwith. Perhaps the British government has taken cognizance of the difficulties of Italy in trying to work out a scheme for levying on capital. Italy's plans appear to undergo frequent modification; recently they have contemplated a levy upon the capital of each individual who possesses \$4,000 or more, with the amount of the levy graded upward to 40 per cent in accordance with the size of the individual's accumulation of this world's goods.

Without waiting for the report of the committee on war fortunes the British government will apparently seek energetically for some source of revenue that will replace the excess-profits tax. According to official statements, this tax is to be discarded at the earliest moment a successor can be devised, for it is considered unfairly severe on new concerns and a contributing cause to high prices.

Barrett Specification Roofs

Your Roof is not Finished Unless it has a Wearing Surface---

When planning to cover any flat-roofed building, remember this—

No matter how good the roofing is, unless it has a wearing top surface, such as gravel, slag or tile, it is like a book without a cover—it isn't finished.

That is why, when The Barrett Specification was worked out years ago, the engineers insisted not only that it should be built up of the two most serviceable roofing materials in the world—pitch and felt in alternate layers—but that it should have a top-wearing-surface of gravel, slag or tile.

It is imperative that every flat roof have such a wearing surface—

To protect the roofing materials from the direct destructive action of rain, snow, ice and sun.

To form a wearing-surface to protect the roofing materials from scuffing feet and the dragging of heavy objects over the roof.

To make the roof highly fire resistant so as to secure the base rate of fire insurance.

Guaranteed for 20 Years

It is because Barrett Specification Roofs are built up thus carefully, with a foundation of Specification Felt and Pitch in five alternate layers,

protected by a substantial wearing-surface of gravel, slag or tile, that we offer to *guarantee* them for 20 years.

The guarantee is in the form of a Surety Bond, which we offer on all roofs of fifty squares or more in towns of 25,000 population or over, and in smaller places where our Inspection Service is available. Our only requirement is that the roofing contractor shall be approved by us.

How to make sure of the Right Kind of Roof

To make certain that your roof will be built according to the best scientific roofing principles, *with 20 years of service guaranteed*, you have only to insert in your building specifications this paragraph:

"The roof shall be laid according to The Barrett Specification, dated May 1, 1916, and the roofing contractor shall secure for me (or us) the 20-Year Guarantee Bond therein mentioned."

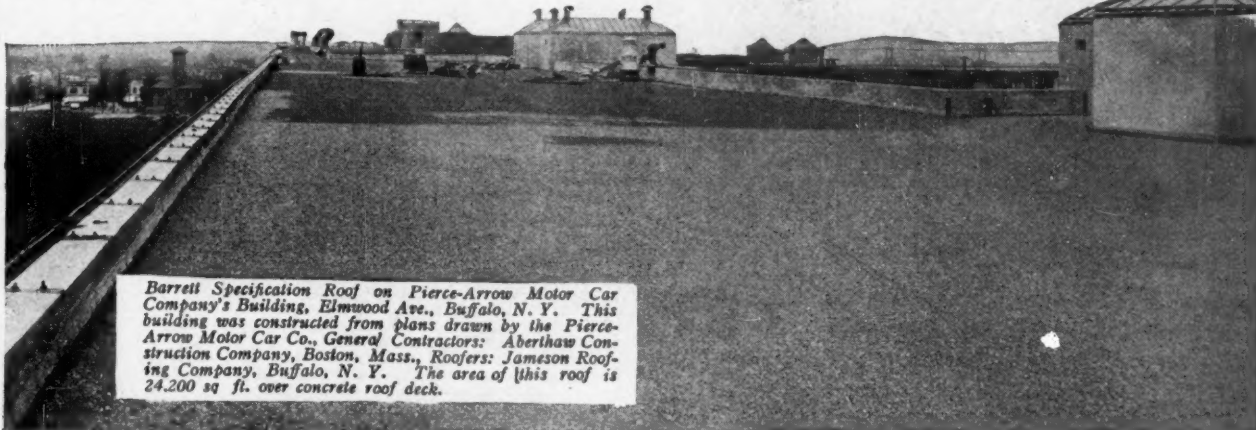
Copies of The Barrett Specification, with roofing diagrams, will be mailed free upon request.

The Barrett Company



New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati Pittsburgh Detroit New Orleans Birmingham Kansas City Minneapolis Nashville Salt Lake City Seattle Peoria Atlanta Duluth Milwaukee Dallas Lebanon Bangor Washington Johnstown Youngstown Toledo Columbus Richmond Latrobe Bethlehem Elizabeth Buffalo Baltimore

THE BARRETT COMPANY, Limited
Montreal Toronto Winnipeg Vancouver
St. John, N. B. Halifax, N. S. Sydney, N. S.



Barrett Specification Roof on Pierce-Arrow Motor Car Company's Building, Elmwood Ave., Buffalo, N. Y. This building was constructed from plans drawn by the Pierce-Arrow Motor Car Co., General Contractors: Aberthaw Construction Company, Boston, Mass., Roofers: Jameson Roofing Company, Buffalo, N. Y. The area of this roof is 24,200 sq. ft. over concrete roof deck.

The Heirs of Mars

As the smoke of battle recedes humanity finds itself in possession of inventions and improvements that add to life's security and open up limitless fields for future research

By THOMAS H. UZZELL

DINNER time in the jungle! One of our primitive ancestors with a stout club had just killed a bear and was proceeding with the first course when a huge neighbor, also looking for a meal, appeared. The big stick that had ended the bear ended the personal disagreement that ensued. The big intruder, having no club, was added to the jungle's list of dead and missing.

When the hunter had eaten his fill, he stared at the club lying on the ground. It was an especially good one—knotted on the end. "Some bat!" he mused. "I'm going to hang on to it. I may be hungry again some day, who knows." Thus began man's conscious use of tools.

The ape-man's club was a war invention. That same club was later used to help him beat his way through the dense jungle, to break open cocoanuts, to till the ground. It became, in time, a hoe—a flail—a plow—a tractor-drawn harvester.

Now we have to consider the profit and loss of another war. Can any good possibly have come from it, the most destructive war in history? Yes, thank God. In proportion as it has destroyed human life and materials it has created new means of saving the one and increasing the amount of the other. It will doubtless be found that this war's contributions to applied science—putting science into overalls—will exceed the contributions of all wars that have gone before. There are thousands of them. We can here only glance at a few of the more significant.

Paradoxical as it may seem, one of the most resolute efforts of the war was to save human life. The advances made in general surgery alone will undoubtedly in time save the lives of as many men as were lost during the war. Besides the achievements of Dr. Carrel in healing wounds and the discovery of "Dakin's solution," an antiseptic fluid hitherto unknown, improved methods were perfected for healing burns by the use of paraffin. By spraying the wound with hot paraffin the use of the old painful bandage is made unnecessary, skin is reproduced without grafting, and the lives of a much larger percentage of men injured in this way can now be saved.

From the popular American point of view the great victories of the war were the offensives beginning at Chateau Thierry and St. Mihiel; from the medical viewpoint the greatest triumph was the defeat of germ and vermin-borne diseases—epidemics. To date not a single one of these diseases has got a foothold on our shores. Typhus, the great scourge of previous wars, has been absolutely conquered in this war by systematic inoculations.

So great were the improvements made during this war in sanitary devices—water filters, sewage systems, ice-boxes, fly traps, incinerators and what not—that those used even in the Spanish-American war look clumsy and primitive by comparison. A way of controlling completely the vermin in laundries and dry-cleaning establishments, a thing unknown before, was discovered. The influenza epi-

demic was kept under control by wholly new devices for isolating each soldier at night. The very architecture of barracks and

buildings of all kinds has undergone an improvement with regard to their health-protecting location and construction.

Another mechanical war wonder, the so-called "direction finder," produced a dramatic sound record of the end of the great war. It was in operation on that historic morning when all firing ceased on the stroke of 11 o'clock. Upon a strip of paper can be seen the graphic record of that morning—a line whose jerky ups and downs, representing cannon fire, straighten out into a smooth line—peace!

It is now proposed to use this same direction finder to test the strength of bridges. It will thus help prevent casualties from railway wrecks—from steel bridges collapsing.

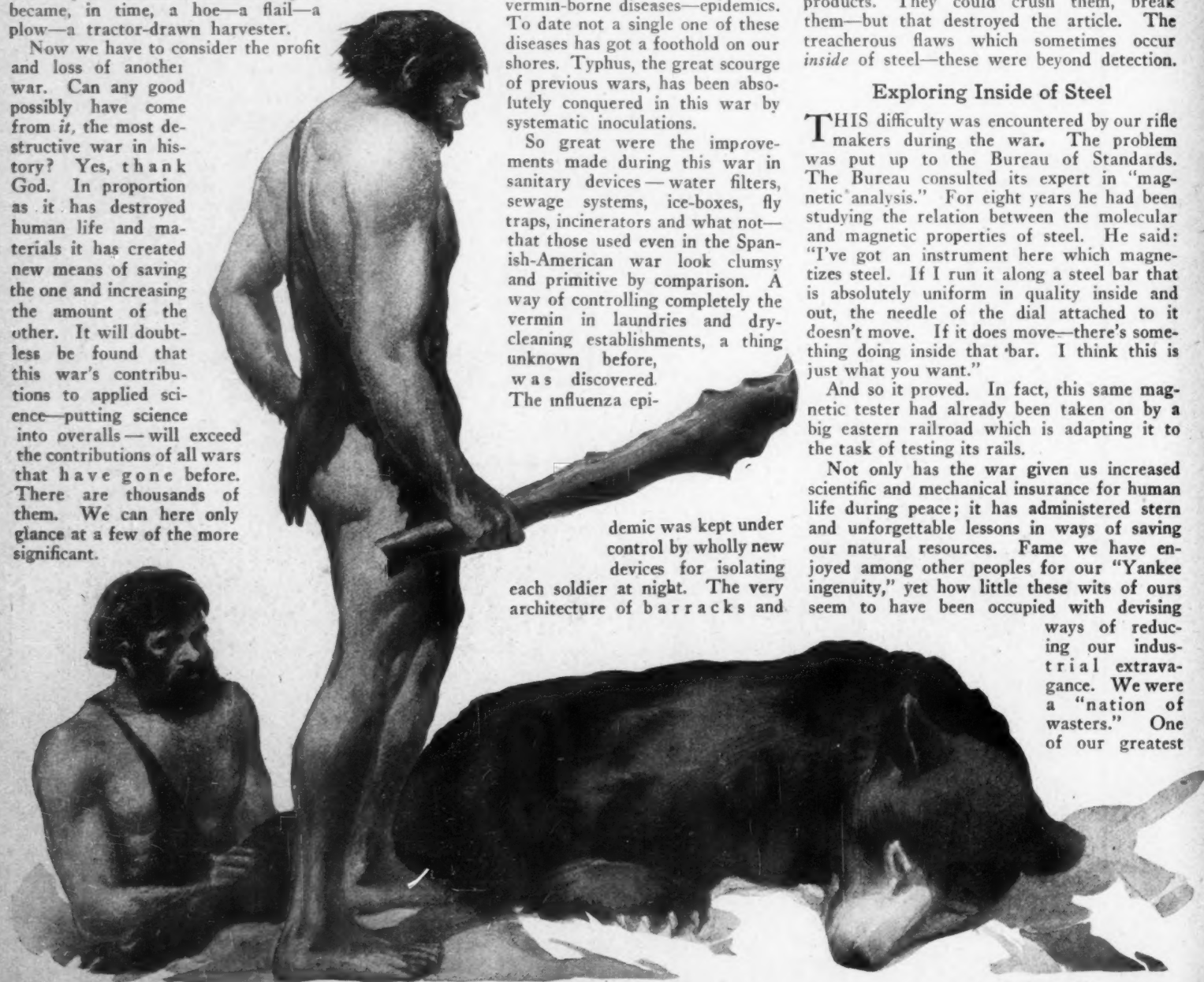
During the last half century uncounted millions of dollars have been lost and lives sacrificed because engineers knew no way of determining the quality of finished steel products. They could crush them, break them—but that destroyed the article. The treacherous flaws which sometimes occur inside of steel—these were beyond detection.

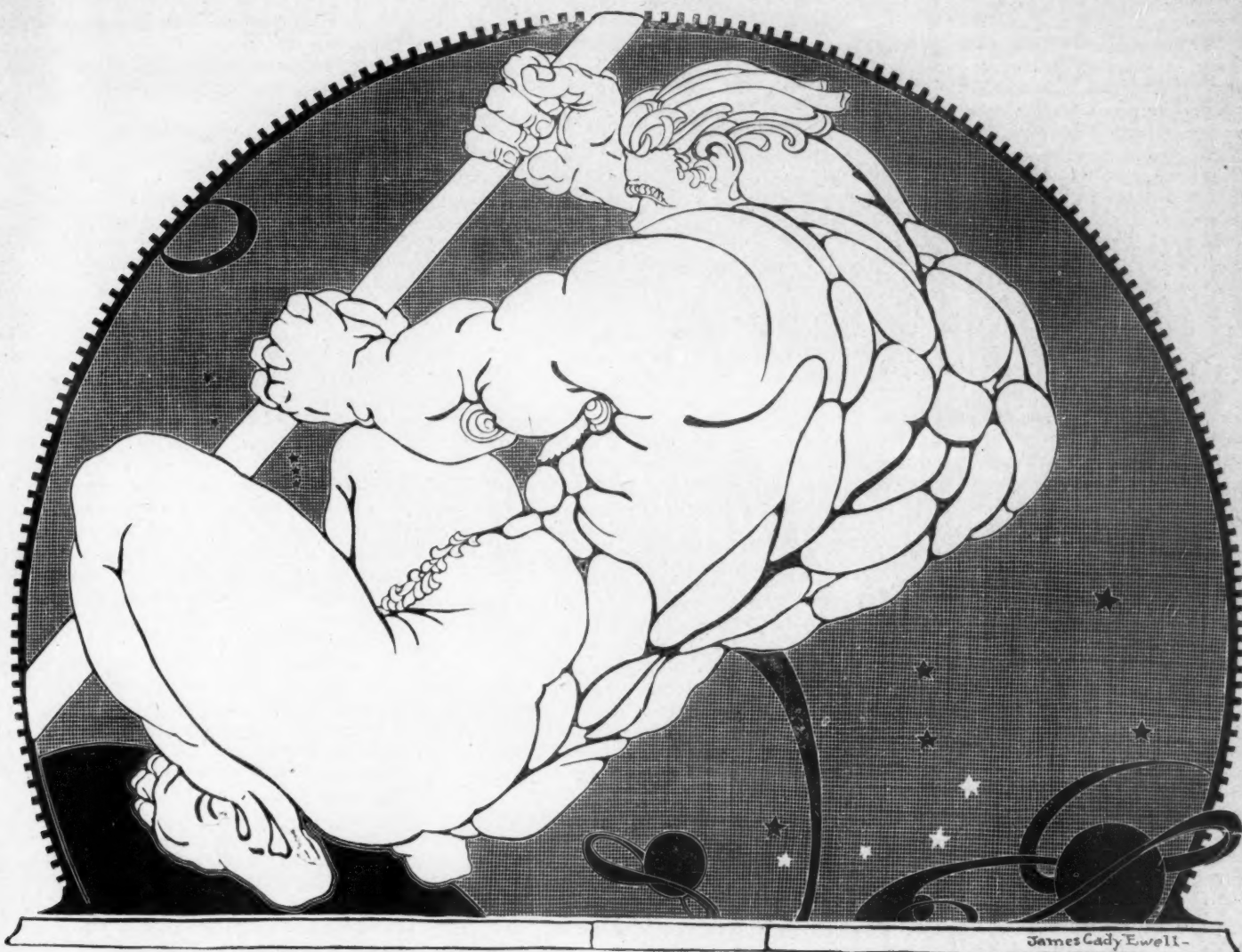
Exploring Inside of Steel

THIS difficulty was encountered by our rifle makers during the war. The problem was put up to the Bureau of Standards. The Bureau consulted its expert in "magnetic analysis." For eight years he had been studying the relation between the molecular and magnetic properties of steel. He said: "I've got an instrument here which magnetizes steel. If I run it along a steel bar that is absolutely uniform in quality inside and out, the needle of the dial attached to it doesn't move. If it does move—there's something doing inside that bar. I think this is just what you want."

And so it proved. In fact, this same magnetic tester had already been taken on by a big eastern railroad which is adapting it to the task of testing its rails.

Not only has the war given us increased scientific and mechanical insurance for human life during peace; it has administered stern and unforgettable lessons in ways of saving our natural resources. Fame we have enjoyed among other peoples for our "Yankee ingenuity," yet how little these wits of ours seem to have been occupied with devising ways of reducing our industrial extravagance. We were a "nation of wasters." One of our greatest





LEVERAGE

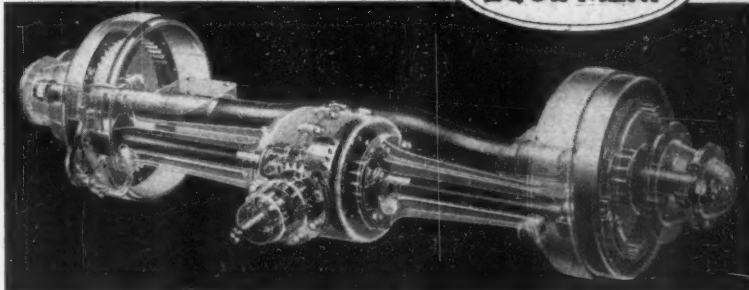
—the cosmic force by which Archimedes declared he could move the earth from its orbit is the principle employed in the Clark Internal Gear Drive Axle which gives it such herculean power—it drives near the rim.

A disc for resiliency and accuracy—steel for strength—both are found in Clark Wheels for solid or pneumatic tires.

WRITE FOR SPECIAL BOOKLETS ON
CLARK AXLES AND CLARK WHEELS

Clark Equipment Company
BUCHANAN MICHIGAN

EXHIBITING AT
New York Chicago
Motor Truck Show Motor Truck Show
January 3 to 10, 1920 January 24 to 31, 1920



CLARK INTERNAL GEAR MOTOR TRUCK AXLES

scientists, after a visit to Europe, once declared: "France could live on what Americans waste." That was before the war. But listen.

The American people have a habit of wasting a million gallons of gasoline yearly. And we did little to prevent that waste. "There's more in the ground—why worry?" was our attitude. War woke us up. We ran short; we had "gasless Sundays."

The Bureau of Mines, hearing that oil wells in the sandy regions of Oklahoma were not being cemented, sent an engineer out to investigate. He forced the operators to cement fifty wells. There resulted an increased flow of two thousand barrels daily, totaling an annual saving of \$1,640,000 in oil.

Our annual coal waste, due to inefficient furnaces and burning methods, amounted, before the war, to 150,000,000 tons, worth half a billion dollars. All users of power-producing coal succeed in utilizing only about 5 or 6 per cent of the heat in coal. Experiments made in the Pittsburgh laboratory of the Bureau of Mines developed new combustion principles so simple that they could be used with profit even in household stoves.

Practically no use was made of these principles—until there arose those cries: "Save coal! Save ship space!" The engineers of the Emergency Fleet Corporation designed new furnaces and designed them right. At sea these furnaces made six tons of coal do the work of seven on every ship of six thousand tonnage built by the Government. This effected a saving of about \$350 on coal for each ship's journey to Europe and back!

Wood! The war has taught us innumerable new stunts for conserving our wood supply and for working it up into articles never before known to wood workers. The Aircraft Production Board, for instance, with \$640,000,000 to spend on war planes, introduced artificial dryings in kilns and got fully seasoned spruce in *two months!*

Squeezing 'em in

THE Packing Service Branch of the War Department, by taking down a motor truck and telescoping its parts for shipment, reduced its cargo space from 1,000 to 268 cubic feet, thus also making damage almost impossible. More: it invented an electrical baling device which tied up three hundred bales a day. This machine in handling one million bales of clothing in one year saved in that time, in labor, material, and ship space, \$50,000,000.

"These figures," says the officer who had charge of this work, "are recommended to the textile manufacturers of the country as worth their close and earnest consideration."

A stirring story of war discovery is to be found in the records of the National Research Council in Washington. This Council, established by request of President Wilson a year before our declaration of war, was composed of the technical bureaus of the army and navy, government scientists, and other civilian experts. So notable were its war services that President Wilson has asked that its discoveries be salvaged for peace uses.

"We have just finished a dozen developments," reported one of its scientists during the war, "which are worth to this country more than the total cost to date of the whole Council—\$250,000."

As I pored over the Council's files, I felt something of the same thrill of romance which came to me as a boy while reading Jules Verne's "Thousand Leagues Under the Sea."

Nothing was impossible to these twentieth century Captain Nemos: the new device wanted was either "finished and ten thousand have been ordered for the A. E. F." or "satisfactory progress is being made."

The submarine menace and the necessity of having soldiers flying in the air led to special efforts for the improvement of navigation. Haze-piercing goggles with yellow glasses were devised. During war they enabled officers to perceive the enemy behind fog on land or sea. In peace they may be the means of preventing another Titanic disaster.

A scheme for illuminating landing fields for aircraft was perfected. A telescopic signaling device which enables a light to be seen eighteen miles in broad daylight was produced and sent to the front.

The time of calculating the location of a ship at sea from nautical observations, hitherto a lengthy process, was reduced to five minutes. Without this improvement the aerial navigation of the ocean would be all but impossible.

Warnings for Gasoline Birds

WITH the co-operation of the Weather Bureau, simultaneous reports on upper air currents were for the first time made in different parts of the country. Thus we now have available weather maps not only of the surface of the earth but of the wind-blown reaches of the heavens. This work has plotted the paths of the gasoline birds of the future—before they fill the sky.

But this is nothing. The Council told me of a little mechanical device, now being perfected by the navy, which may do away with all lighthouses. You remember how when a kid in swimming you knocked two stones together under water? You remember how loud the sound was? Well, the navy's idea is to signal through the water to all ships from given points on the coast by means of this principle. With the time it takes the sound to travel, the distance can easily be computed. A look, then, at your navigating chart, and there you are, quite at home, independent even of wireless!

If this doesn't startle you, here's something that will: A certain professor in Wisconsin during the war produced sugar from corn cobs, "Zylose" he calls it. It is made from the liquor by-products of the wood alcohol industry, which uses agricultural wastes as raw materials.

After only a brief study of our war inventions, one sits back in amazement and exclaims: "Good heavens, all these so-called twentieth century scientific marvels—why, they're only crude beginnings! Nature is still several laps ahead of us and going strong."

We are in truth too modest about our abilities. Anything can be done—with nature.

Take the bee. For how many years to our despair has its industry been held up to us as a pattern of excellence! War, with its sugar shortage, forced us to look a little more closely at this honey-gathering business. Our entomologists discovered that the bee was inefficient. They decided to put its work on a war basis, "The little busy bee," they wrote to twenty-five thousand bee-keepers, "has got to get busier. Add another shift." Result: our export of honey was increased ten times and our home consumption also enlarged.

The greatest mechanical prodigy of the late war is, of course, the airplane. We had conquered the air before the shot at Serajevo. True. But the time necessary fully to master

this new machine has been shortened by from twenty to fifty years. Already birdmen are alighting on housetops, postmen are flying between cities and military petrels have flown across the Atlantic!

The mechanical by-products of perfecting the airplane, scientists estimate, are worth as much as the plane itself.

There is the Liberty motor. For strength, lightness and ease of manufacture in large quantities it is the peer of any engine yet made.

The invention and improvement of this and other aircraft accessories was greatly accelerated by the use of an "altitude room," which reproduced cold and rarified atmospheres found above the clouds, and a big "wind tunnel" which created a gale of 100 miles an hour.

President Van Hise of the University of Wisconsin has said: "We know enough about agriculture so that the agricultural production of the country could be doubled if the knowledge were applied. We know enough about disease so that if the knowledge were utilized infectious and contagious disease would be substantially destroyed in the United States—and that within a score of years. We know enough about eugenics so that if the knowledge were applied the defective classes would disappear within a generation. Similarly in other fields our knowledge has expanded far beyond utilization."

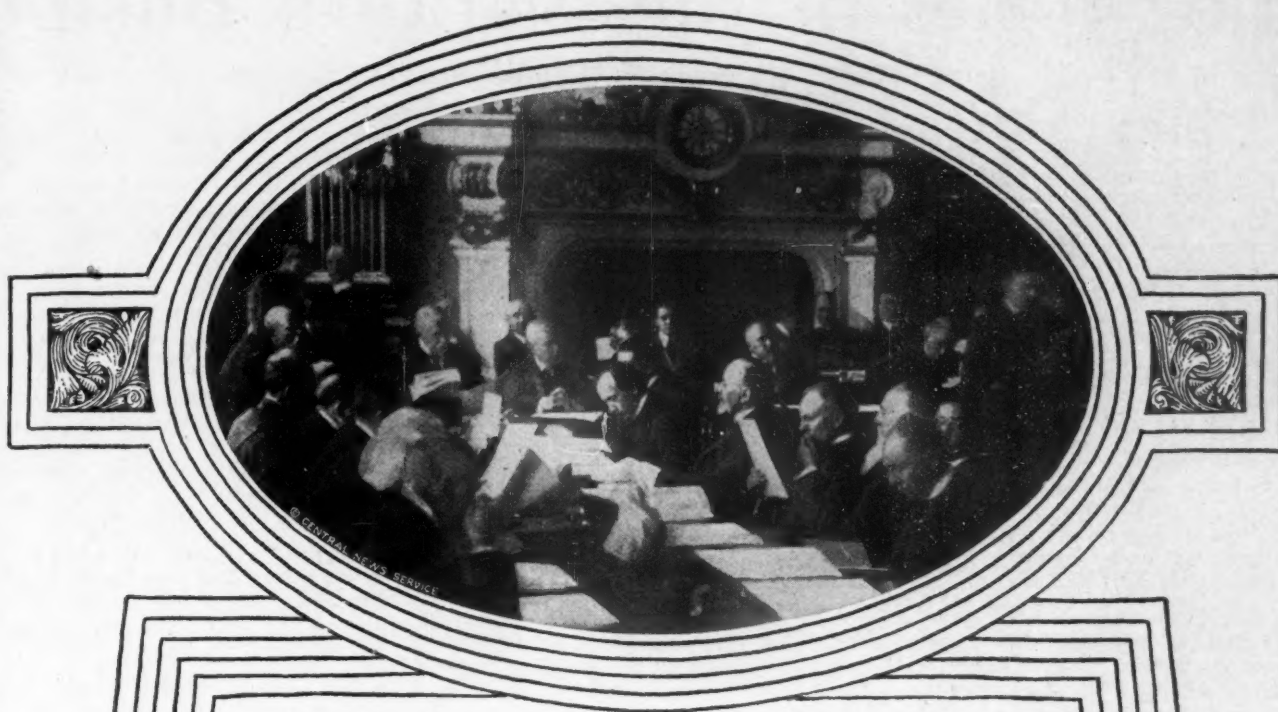
Man is not naturally a progressive animal. Because of the deep grooves our habits dig into our brains, our traditional ways of doing things shackle us to the past. War shows us that we are as ignorant of the possible uses of the simplest things as was the old lady who tried to use moth balls by throwing them at the moths. It has convinced us more than ever before of the infinite capacity of the human brain and hand.

Oil for R. R. Fuel

THE Missouri, Kansas & Texas Railroad is asking authority of the United States Court for the Northern District of Texas to execute a five-year contract for purchase of fifteen million barrels of Mexican crude petroleum from the Mexican Petroleum Corporation. The petition estimates about a million and a half dollars saved in operating economies. (There is little coal produced in Texas and the cost of obtaining it from Oklahoma, Kansas, etc., is high.)

The contract calls for three million barrels a year at 65 cents a barrel of 42 United States standard gallons plus the handling charge. The oil corporation is to loan the railroad \$650,000 to refit locomotives with oil-burning equipment and provide storage facilities. The railroad will reimburse the oil company by paying 35 cents additional on every barrel until the debt is cancelled.

On the basis of 1918 coal cost, the first saving by using oil is estimated at \$538,453 a year. It is said that 3½ barrels of oil have the heating value of a ton of coal and may be purchased and delivered for \$3,572 as against coal at \$4,544 a ton—a saving of \$.872 per ton. Other estimated economies are: more effective consumption and depreciation of coal from source to locomotive, \$218.59; reduced handling cost, \$89,227; saving in handling storage coal, \$23,520; engine housing expenses, \$276,344; insurance reduction, \$50,000; loss and damage from fires from locomotives, \$20,000; cost of maintaining equipment, \$50,699; freight efficiency increase, \$420,961.



Great work! Twenty minutes after some of the important Peace Conference speeches were delivered, mimeographed copies were ready for distribution and consideration. In Paris, in the heart of the whirl of world events, the Mimeograph with stout and swift dependability did yeoman service. Some of the work of the Peace Conference would have been quite impossible without it. Speed and accuracy were there indispensable. And the Mimeograph met the great test—just as it is doing in governmental, business and educational institutions throughout the civilized world. With amazing rapidity and fine exactness it reproduces typewritten sheets, maps, drawings, forms and the like—first copies ready in a few minutes—and thereafter five thousand an hour. Stencils will run thousands of copies without renewing. All done at small cost. Great work, that! Why not know more about it, *now?* Get booklet "N" from A. B. Dick Company, Chicago—and New York.



Little Stories of the Nation's Business

High lights in the swiftly moving drama of American Business finding itself after the shock of peace

Foreign

AS a result of a provisional census the population of Berlin has been estimated at 1,897,000, a decrease of 178,000 as compared with the census of 1910. England's exports to South Russia during four months since the opening of trade with ports of the Black Sea have amounted to \$1,770,000.

Total British investments in Mexico are estimated at \$500,000,000. This includes investments in oil, public utilities and mines.

France and Britain are rapidly resuming trade with Germany and are buying heavily in the markets of the former enemy. On account of abnormal exchange rates, the French are procuring from Germany many articles formerly obtained from Britain.

The "workless support" bonus, which thousands of men and women are now drawing in Germany, is proving a heavy drain on the German treasury. It is said that the bonus is so high that many men, who in peace times were unskilled workmen, now receive more pay for idleness than if they returned to labor.

The Jugo-Slav government is planning to send a mission to the United States to study commercial, financial, agricultural and educational facilities with a view to closer relations of the United States; also in the hope of obtaining from American syndicates credits for guaranteeing the currency of Jugo-Slavia and a loan to assist in the development and reconstruction of that country.

The German Minister of Finance has stated to the National Assembly that the contemplated expenditures for 1919-20 are \$14,375,000,000 and the national debt at the close of the year will be \$53,250,000,000, in addition to various local and municipal debts and liability under the peace treaty for reconstruction.

China has cut her military budget from \$250,000,000 to \$160,000,000.

An eight-year naval program costing \$824,000,000 has been decided upon by the Japanese government.

Two hundred London firms have adopted the scheme promoted by King George for the reemployment of disabled soldiers or sailors and will be entitled to use the "Seal of Honor" on their note paper. Names of employers who reinstate a certain percentage of their former employees now disabled will be placed on a Roll of Honor.

France is limiting moneys taken out of France by travelers to 1,000 francs in French or foreign paper money, and 10 francs in silver, so as to protect the home silver supply. A law has also been passed penalizing the melting, recoinage or withdrawal from circulation of national money.

Exports of oil from Mexico will be close to 80,000,000 barrels for 1919.

It has been arranged to sink France's surplus powder in the Pyrenean Lakes for the purpose of conserving it.

Prior to the war Scandinavian lumber held first place on the Belgian market. It appears,

THE importance of these paragraphs is of inverse ratio to their length. They are culled from the business news of the month, and are boiled down to the very bone to make quick and easy reading. Among them are facts that can be applied directly to the opportunities and problems of your business.—The Editor.

however, that Belgian architects are more inclined than formerly to favor American woods, particularly red fir and spruce. Formerly it was thought that the difference in grading would prevent the use of American lumber in Belgium, but this prejudice has been abandoned, as American sizes have been found to differ by only .002 meter from the Belgian lumber.

Representatives of Chilean, Paraguayan, Uruguyan, Argentinian and Brazilian governments have held a meeting for the discussion of the proposed joint restrictions on immigration from Europe into South America.

The Swiss Government is creating an aerial fleet and the Swiss Confederation has voted a credit of 1,300,000 francs annually for the service.

A commission of the German National Assembly has agreed to a sliding scale of assessment of private incomes for the Republic's emergency. It provides for a levy of 10 per cent on the first 50,000 marks and 12 per cent on the second 50,000 marks. The tax reaches 40 per cent on the first 500,000 marks, and fortunes of 1,000,000 marks are to be taxed 50 per cent, while multimillionaires are assessed as high as 65 per cent.

Labor

THERE were 101,000 women employed in railway service before the date of the armistice. This number had decreased by July, 1919, to 82,294, due to the return of men from military service and the reduction of the labor force.

The Domestic Workers' Employment Bureau, which has been formed under the auspices of the National Federation of British Women Workers, has announced its program as follows: Minimum for resident domestic workers of \$12 a month; set meal hours; decent sleeping accommodations; allowance for laundry; two hours' free time each day and a half day each week; a 12-hour day, including time off; and 14 days' holiday each year with full board and wages.

Statistics made public by the Civil Service Commission, November 14, show a net increase of 370 Government employees over the number employed on the date of the signing of the armistice.

The Service and Information Branch of the Department of Labor announces that the Central States still face a considerable problem in finding suitable employment for all returned fighting men. Sample figures from seven cities for a period of four weeks show that while 9,454 ex-service men have applied for positions, but 7,337 have been put in jobs. Detroit placed 1,409 men out of 1,767 seeking employment.

The Women's Bureau of the Department of Labor has prepared a report based upon a survey just completed showing that the Government pays men more than women for the same or comparable work.

The estimated number of workers on strike in New York City shrunk from 181,500 in October to 45,500 in November.

Representatives of farmer and labor organizations, with a membership of more than 3,000,000, met in Chicago November 21 for a two-day conference on non-partisan co-operation and a joint legislative program. The officers of the Farmers' National Council and the National Cooperative Association issued the call for the meeting.

English clergymen, following the example of physicians and other professional men in England, are forming a trade union for the purpose of securing more pay and better working conditions.

Overseas Trade

EXPORTS of farm and tool machinery for the first eight months of 1919 show a gain of 25 per cent over 1918. France leads in this increase, with purchases of American farm machinery \$6,000,000 greater than in 1918; South America is next.

A Japanese firm has placed a contract for 30,000 pounds of steel valued at \$2,700,000 with the United States Steel Corporation.

One million dollars in gold bullion has been received at San Francisco from the All-Russian Government. This gold has been deposited in the United States Treasury as a guarantee of the Russian Government to meet its obligations on purchase of war materials made from the United States Government.

United States exports to South America in 1919 will exceed those of any earlier year by more than \$100,000,000.

To cancel a contract with a Spanish firm for a two years' supply of vinegar intended for use by the army, American authorities were obliged to pay \$40,000.

Official statistics for the first nine months of 1919 show that Italy imported from the United States \$600,000,000 worth of goods, as against \$8,000,000 worth exported.

A standardized \$6 shoe is to be placed on the market by Belgian shoemakers for the purpose of driving out foreign competition. Imported shoes sell in Brussels at from \$15 to \$25 a pair. The large majority of these have been imported from the United States.

In anticipation of large building enterprises, Turkish importers expect to procure from America almost all the lumber to be used in their future developments.

Exchange continues to be the principal barrier to the sale of American goods in Esthonia and Finland. The exchange value of Finnish marks is now 20.85 for \$1 and of the Esthonian mark, 50 to 60 for \$1.

The first shipment to China in coin instead of bullion will be made through purchases of silver dollars in San Francisco. This method was adopted because silver is now cheaper in coin than in bullion.

A Few Reasons Why Stromberg Time Recording Systems are a Profitable Investment

1—Increase Production

Furnish you with production statistics which enable accurate planning and utilizing of every minute of the working day.

2—Decrease Non-Productive Time

By showing up delays and other lost time and reasons for them, such as jobs not planned, waiting for materials or instructions, tools not ready, machine broken down, power off etc., and thus permitting their elimination.

3—Furnish Correct Cost Basis

By giving clear, accurate, impartial record of time chargeable against each job or operation. Time registered in decimals of the hour, or other convenient units of time.

4—Furnish Accurate Unalterable Payroll Records

Impartial to both employee and employer.

5—Reduce Clerical Work

Reduce postings and transcriptions with resulting chances for errors in same. Simplify calculations in both cost and payroll departments.

6—Enable Prompt Assignment and Control of Work

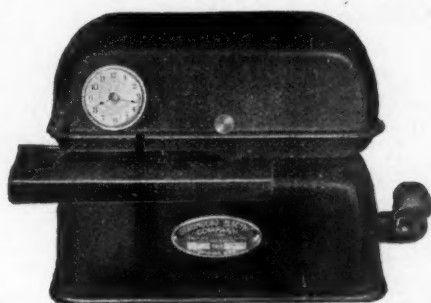
Show foreman at a glance which employees are present and which are absent. Show clearly and quickly exact status of every job in shop.

7—Make Each Employee His Own Timekeeper

Insuring satisfaction and avoiding disputes.

8—Give Uniform or Synchronized Time

Assuring time unity throughout your plant.



THESE are only a few reasons why Stromberg Time Recorders are profitable to you. There are many others. We have a representative in your vicinity. May he not call upon you and show you the many advantages which you would derive from the installation of Stromberg Time Recorders, and explain their application to your specific conditions? Write today for Booklet No. 56.

We are manufacturers of complete Time System Apparatus: Master Clocks, Employee's In-and-Out Recorders, Time Recorders for Cost Keeping, Automatic Time Stamps, Programme Instruments, Secondary Wall Clocks, etc.

STROMBERG ELECTRIC COMPANY

606 S. Michigan Avenue

Chicago, Illinois

Canadian Branch: Stromberg Time Recorder Company of Canada, Ltd.
72 Queen Street, W., Toronto, Ontario, Canada.

Finance

AN unprecedented demand for silver in the arts and for small coinage, coupled with a scarcity caused by a diminish in the mining of the world during the war, is causing commercial bar silver to rise to record-breaking heights. Silver bullion is now quoted at \$1.22 $\frac{3}{4}$ an ounce.

American financiers have successfully negotiated a six per cent loan of \$250,000,000 with the Polish Government.

Ten million francs worth of nickel money is authorized by the French Minister of Finance to be minted to meet the shortage of small change.

One reason for the depreciation of the French franc is shown in the official figures of the French exports and imports for the first eight months of the year. The imports total \$3,700,000,000 while the exports amount to something over \$800,000,000, the adverse balance amounting to \$2,900,000,000.

The Foreign Finance Corporation, which will deal in foreign securities with a capitalization of \$10,000,000, was formed in New York, November 13. A. M. Anderson, of J. P. Morgan & Company, will be president. Directors are J. P. Morgan, H. P. Davison, J. S. Alexander, G. F. Baker, G. W. Davison, H. D. Gibson, C. H. Sabin, Seward Prosser, James Stillman, A. H. Wiggin and Mr. Anderson.

The gold fund to be accumulated from revenues of Paraguay will be deposited in New York to stabilize exchange between that country and the United States.

Failure at the last moment on the part of the Chinese Government to guarantee surplus salt revenues, which have been offered as one of three securities on the proposed loan to China of \$30,000,000 by a Chicago bank, was the cause of withholding the loan.

A recent dispatch from Rome states that Italy is on the verge of bankruptcy. The Minister of Finance has just announced that the public debt amounts to 5,000,000,000 pounds and that paper money in circulation amounts to 3,500,000,000 pounds sterling.

Figures showing the increase in American wealth have been made public by the Comptroller of the Currency. The number of depositors in national banks has increased 10,549,832 in the last nine years, and individual deposits have increased approximately \$8,500,000,000.

The Farm Loan Board announces that earnings of Federal Farm Loan banks during six months ending November 1 were \$858,033, a gain of more than \$250,000 over the previous half-year earnings and an increase of approximately \$650,000 over the profits of banks for the corresponding six months a year ago.

The first year of the new Austrian republic has closed with a deficit of 13,000,000 crowns.

Industry

THE Geological Survey reports that 29 gold dredges were operated in Alaska in 1918, producing \$1,425,000 worth of gold.

Meltings by sugar refiners at all ports through October 25, 1919, have been 3,561,369 tons against 2,754,585 for the corresponding period last year.

The Great Lakes Paper Company, Ltd., a large American corporation, is about to

begin operations in Canada at Port Arthur, Ontario. Contracts for hydro-electric power have been signed and everything is in readiness for the commencement of construction operations. Those prominent in the enterprise are: Lewis Olsted, president of the Combined Locks Paper Co., of Combined Locks, Wisconsin; George Seaman, president of the Seaman Paper Co., Chicago, and James Whalen, of Port Arthur. The first unit of construction is to be a ground-wood mill capable of turning out 30,000 tons annually, a sulphide mill to produce 7,500 tons annually, and a newsprint mill with a capacity of between 33,000 and 35,000 tons per annum. The plant will be so built as to permit of extensions.

According to the report of Postmaster General Burleson, war-time operation of the telephone and telegraph systems of the country cost the Government \$14,418,237.

The Department of Justice established November 14 a wholesale price of ten cents and a half for all beet sugars in the United States.

The Committee on Forest Conservation of American Paper and Pulp Association reported at the convention held in New York November 14 that the production of wood pulp for the paper industry of the United States increased 159 per cent from 1899 to 1918, while the cost of production for the same period increased 633 per cent.

A high-power radio service between the United States and Norway, Sweden, Denmark and Finland opens November 20.

Lumber cutting in the United States is now three times greater than the annual growth, according to the Southern Pine Association.

Building needs of the United States include 1,000,000 homes, 128,000 factories costing more than \$100,000; 325,000 factories costing less than \$100,000; 6,000 hotels, 5,000 schools and public institutions, 50,000 apartments, 120 major freight terminals, 14,000 railroad stations and freight sheds, and 20,000 churches and theaters.

Shipping

ACCORDING to returns for the third quarter of 1919 issued by Lloyd's register of shipping, merchant vessels under construction throughout the world, with the exception of Germany, aggregated 2,328 vessels of 8,048,528 gross tons. The United States leads with 3,470,000 tons to Britain's 2,816,000 tons, while British dominions rank third and Japan fourth.

A New York shipping firm announces a direct passenger steamship service between New York and the West Coast of South America.

A movement has been made in San Francisco to combine shipping interests for the purpose of establishing the shipping supremacy of the port. The plan includes the purchase of Shipping Board steamers to insure sufficient tonnage to meet the needs of the trans-Pacific traffic moving through San Francisco.

The Bureau of Navigation announces that since the armistice American shipyards have turned out 2,395 vessels of 4,258,045 tons.

The British Navy lost during the war 1,069 vessels, of which 254 were warships and 815 were auxiliary ships.

None of the foreign-built ships purchased by the Navy Department for war use as

auxiliary craft will be sold pending legislation removing restrictions against these vessels being admitted to American registry.

Agriculture

LEAF tobacco held by manufacturers and dealers October 1, 1919, aggregated 1,263,769,670 pounds as compared with 1,627,233,876 on April 1, 1919.

A Pennsylvania company has leased 20,000 acres of everglade lands in Florida for cultivation of sugar cane. If the experiment proves a success the sugar supply of the United States will be increased by millions of tons.

In accord with the almost unanimous sentiment in Idaho and in response to considerations vitally affecting adjoining national forests, Congress has set apart 1,116,000 acres of land in Idaho, known as the Thunder Mountain region, as national forest lands.

Annual exports from Hawaii now amount to more than \$80,000,000, nearly all of which represents agricultural products sent to the United States. Most of these products are raised by irrigation.

Malt sugar sirup is a brand-new sweet which has arrived on a commercial scale at the psychological moment to relieve the sugar shortage, says the specialists of the Bureau of Chemistry, United States Department of Agriculture, who have investigated various substitutes for sugar.

Free movies and small hand-made explosions are to be made features of a series of special meetings, open to the public, to be held in the principal cities of the grain section of the country, under the auspices of the United States Department of Agriculture and the United States Grain Corporation, in an effort to check carelessness, which of late has resulted in great loss of life and property due to grain-dust explosions.

Control of the cotton-boll weevil by poisoning has been received so enthusiastically by farmers that, with present facilities for dusting-machinery production, the demand can not be met, according to specialists of the United States Department of Agriculture, under whose direction the poisoning system has been developed.

Transportation

THE United States Government has paid the railroad companies for rentals during the two years of Federal operation \$1,800,000,000, the rental being based on previous earnings. The Government's deficit on account of railroad operation in the two years will be approximately \$600,000,000. Railroad freight and passenger rates were increased 25 per cent, although about everything the railroads used in their business, and about everything every other industry used, including labor, increased more than 25 per cent.

Recent Government Publications

The Decline and Ultimate Production of Oil Wells, with notes on the valuation of oil properties, Mines Bureau Bulletin No. 177.

Chinese Currency and Finance, Special Agents Series No. 180.

Statistical Record of the Progress of the United States, 1800-1919, and Monetary, Commercial and Financial Statistics of Principal Cities, issued by Bureau of Foreign and Domestic Commerce.

Interstate Commerce Commission Decisions, vol. 51, August, 1918 to December, 1918.

Statistics of Railways in the United States, issued by Interstate Commerce Commission.

The Lumber Market in Italy and Reconstruction Requirements, Special Agents series No. 182, Bureau of Foreign and Domestic Commerce.



First night at the Automobile Show. Thousands of people pay admission to see new models of the year. A man can go all through the Show—see the new color schemes, ingenious novelties in trimming and design. What has he really learned?

What can a Man really Learn at the Show

THÈRE are a lot of things a man buys that he intends to discard after a season or so. He expects the style to change year by year. This is as it should be.

But no matter how much money a man has, when he makes a purchase involving perhaps \$3000 and up, he expects to get a *reasonably permanent value*.

He usually gets it in everything but his motor car, where the habit of *style*

change year after year may wipe out 27 per cent. of its value over night.

IF a car is expected to last only a year or two, there is no reason why its style should not change every season.

But the Packard Company believes that *stabilized style* is just as much a part of basic *transportation principles* as Packard mechanical features and performance.

The Packard car is built to deliver service over a *term of*

years. Its style is no more subject to passing moods than its engineering design.

WHEREVER you go, you hear people say they see "so many Packards" on the street.

That is because the Packard keeps on running and is always a "new model."

The public opinion about the Packard car is perhaps the most valuable automobile goodwill in the world.

"Ask the Man  Who Owns One"

PACKARD MOTOR CAR COMPANY, *Detroit*

Locate Your New Plant

where you can get *all* these marked advantages

The Du Pont Company chose Hopewell as a site for its colossal gun cotton plant because of its unexcelled advantages with regard to labor, water, fuel, raw materials, climate and transportation.

Our conversion of Hopewell from war to peace industry has released its factories, power plants and other industrial equipment for general manufacturing purposes.

Hopewell, with these advantages—natural and acquired—now presents opportunities to manufacturers and prospective manufacturers which we believe without precedent in industrial history.

The Hopewell factories have floor areas running up to 150,000 square feet and are adaptable to many kinds of manufacturing. They are piped and wired ready to turn on steam or electric power.

For manufacturers preferring to build their own plants, Hopewell has 1200 acres available for sites. Most of these have *railway sidings already built.*

What the Petersburg-Hopewell Industrial District of Virginia Offers

Adequate supply of labor.
Freedom from labor troubles.
Splendid housing facilities.
Excellent rail and deep water transportation.
Low priced steam and electric power.
Abundance of pure water.
Accessible raw materials.
Best steam coal in the world.
Factories already built and available.
Factory sites with railway sidings.
Mild and healthful climate.
Low living costs to workers.
Fire protection without an equal.
Financial help for legitimate development and expansion.
A good place to live and rear a family.

The Petersburg-Hopewell Industrial District, of which Hopewell is a part, is at the junction of the Appomattox and James rivers, near Chesapeake Bay. It is twenty-three miles south of Richmond and eighty miles west of Norfolk.

The District has splendid rail and deep water transportation facilities. Freight rates are as low as any on the Atlantic seaboard and give the area advantages over Baltimore, Philadelphia and New York.

The James river gives Hopewell its deep water outlet to the sea. Products may be loaded on smaller freighters or shipped on barges to larger ocean steamers at Norfolk or Newport News.

The District is served by three great trunk line roads which, with their connections, give manufacturers rail access to all important market centres, north, east, south and west.

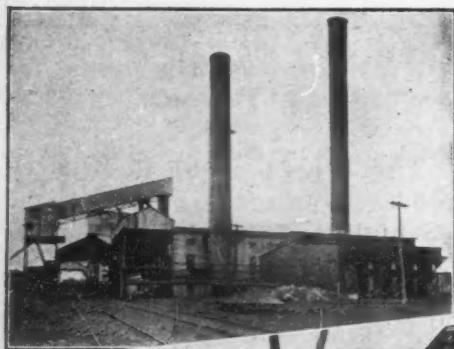
Hopewell has many other features that make it not only a good place to do business but a good place to live and rear a family.

It has hundreds of attractive homes, churches, schools, clubs, hotels, theatres, stores, commissary, Y. M. C. A., Y. W. C. A., trolleys, paved streets, electric lights, sewers, and the best fire and police protection in the world.

In short, Hopewell supplies the needs of a manufacturer seeking a more favorable place to move his plant; the manufacturer desiring a strategic location for a branch factory and the prospective manufacturer looking for a suitable locality to begin business.

Adequate financial assistance will be given manufacturers to take care of any legitimate requirements for development and expansion.

(See next page)



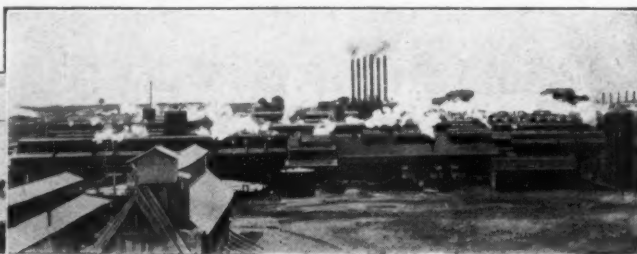
← One of Hopewell's three modern power plants having a total capacity of 60,000 horse-power. They deliver electric and steam power, light and heat at low price.



← Photograph on left—A busy wharf scene at Hopewell. Boats are loaded directly from railway cars.

↓ Photograph in left corner—A James river pier at Hopewell. From here tons of munitions were shipped to Europe.

↓ Photograph below—A few of Hopewell's factories now available to manufacturers. These buildings are easily adaptable to the needs of various industries.



(Continued from opposite page)

We have prepared Hopewell for peace industry with as much thoroughness as it was built for war. We have obtained experts of nation-wide reputation to study the specific requirements and problems of various industries and to assist firms who come to Hopewell in getting their business started. These technical experts, after making a thorough study of your problems of labor, raw materials, manufacturing processes, transportation and finance, will give you an unbiased report as to how the resources of Hopewell fit your special needs. This service is without cost to you. We furnish this service in a big way for the same reason that we are advertising in a big way—to do a thorough and prompt job of disposing of our peace surplus and putting Hopewell on a peace basis. Demand is already keen and Hopewell soon will be sold.

Labor

The demand for greater production is becoming more and more insistent. The most serious drawbacks to production now are labor troubles and labor shortage. Many manufacturers are so handicapped in either or both respects as to make changes of plant location imperative.

Hopewell has no labor shortage and it is free from conditions that breed discontent and strikes. Its supply of workers, skilled and unskilled, male and female, is ample for all needs.

Wages

High wages are due largely to high living costs. Hopewell is free from both.

The region adjacent to the District produces great quantities of garden and farm products. These are supplied to Hopewell consumers at low cost. As the commissary at Hopewell operates on a low cost-plus basis, it is able to sell groceries and other household necessities at considerably below regular retail prices.

The Hopewell worker also benefits in the minimum outlay necessary for rent, heat, light, water, clothing, etc. The mild

climate obviates the necessity for heavy clothing and any great amount of heat in houses.

Homes

The housing situation is of paramount importance to a manufacturer in considering a location for his plant. Hopewell has no housing problem. It has accommodations at this date for 12,000 additional workers. It has hundreds of attractive cottages, bungalows and apartments for workers with families, and large cheerful dormitories for single men and women. These have lawns and gardens and are equipped with electricity and all modern conveniences. Rents range from \$11 to \$15 a month.

Power

Non-dependable power is expensive at any price. Hopewell's supply is constant and below standard costs. Three gigantic and modern power houses, having a total capacity of 60,000 horse power, are so connected that one or all can distribute service to any part of the industrial district.

This insures Hopewell manufacturers

with a never-failing supply of steam and electric power, heat, light and air pressure. Electricity is furnished as low as 1½ cents a kilowatt hour.

Fuel

Hopewell is exceptionally well favored in respect to coal supply. The three greatest tide-water coal carrying roads in the United States—the Norfolk and Western, the Chesapeake and Ohio and the Virginian—pass through the District.

The famous Pocahontas and New River coal fields lie within short hauling distance. These are recognized as the best steam coals in America and are considered equal to the celebrated Cardiff coals of Wales.

Water

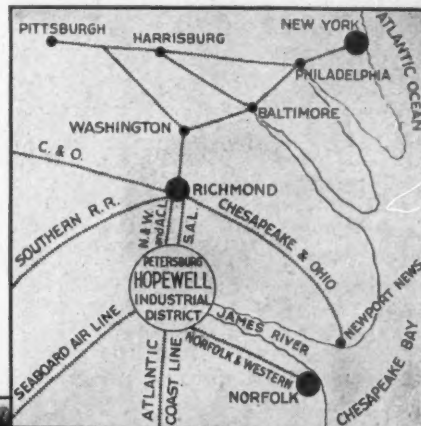
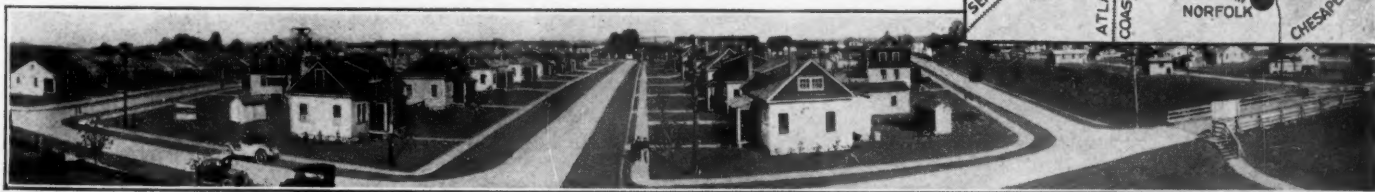
To industries requiring cheap and abundant pure water, Hopewell offers preferred opportunity. It has a purification plant with a daily capacity of over 50,000,000 gallons—enough to supply a city of 500,000 with all the water needed for industrial and domestic purposes.

NOTE The Du Pont Chemical Company, as its name implies, is not a real estate concern. We have this peace surplus equipment, however, which we mean to dispose of in the quickest possible time. It will be a matter of first come first served. Immediate action is advisable. Write or wire today.

Du Pont Chemical Company Incorporated Wilmington, Delaware

Petersburg Chamber of Commerce, Petersburg, Va.

Photograph below—This shows a part of Hopewell's residential area. Note the general attractiveness of the houses and the pretty lawns and well-paved streets surrounding them. There are housing accommodations at Hopewell for 12,000 additional workers.



Our Relentless Overhead

Four billions are required annually to meet charges that fall in this column, and it is timely to observe that we can conserve overhead only by using it to the utmost

By HOMER HOYT

Professor of Economics, Delaware College

THE national capital invested in factory buildings, machinery, railroad cars, terminals and roadbed exceeded 40 billion dollars even before the war, and the interest and upkeep of that heavy fixed investment costs us over 4 billion dollars a year. Our bill for overhead is as great as the combined value of iron, steel and lumber products! Quite worth conserving it would seem. Yet unused factory space, idle machinery and empty freight cars are seen on every hand. Overhead is evaporating and running to waste throughout the nation every hour and the aggregate leakage amounts to millions of dollars every day. For unlike the conservation of lumber and mineral wealth we can conserve overhead only by using it. Strange as it may sound, overhead is lost when it is hoarded and conserved when it is exploited to the full.

The railroads afford a striking example of wasted overhead. Sixty per cent of the total cost of operating a railroad is overhead expense and this large percentage of the cost goes on whether trains run or not. Rails rust and ties decay even when no trains pass over them. The depots and terminals suffer as much from the ravages of wind and storm when locked and bolted as when they shelter travelers. Taxes and interest commence to run from the moment the railroad is built and they accrue on scheduled time whether the trains arrive late or early.

The Invisibles

THIS is why it took a billion dollars of the two and a quarter billion dollars spent in operating trains and cars in 1916 to maintain the roadbed and equipment and to take care of depots, terminals and rolling stock, and we must add another billion dollars for interest at 5 per cent upon the investment of 20 billion dollars. Thus we have two billion dollars for railway overhead. Two billion dollars that falls due every year, regardless of whether business is slack or prosperous and regardless of whether the Government, private owners or the Railway Brotherhoods operate the trains.

How can we conserve it? By increasing the volume of traffic. For instance in 1916, the railroads carried $2\frac{1}{4}$ billion tons of freight at a cost of about $3\frac{1}{4}$ billion dollars or \$1.44 a ton. Now suppose that in 1920 the volume of each class of freight be exactly doubled and that $4\frac{1}{2}$ billion tons of freight be carried the same distance. Would the total cost of operating the railroads be increased in proportion to the increased traffic? Not at all. The reason is that the interest on the investment would remain constant at the billion dollar mark, and the billion dollars spent on the labor of maintenance and upkeep would not change. Only $1\frac{1}{4}$ billion dollars of the operating expense would be doubled to $2\frac{1}{2}$ billion dollars, but that would be the only added expense caused by the 100 per cent increase in traffic.

Thus the cost of hauling $4\frac{1}{2}$ billion tons of freight would be only $4\frac{1}{2}$ billion dollars, or \$1 a ton. A reduction of 44 cents a ton or 30 per cent in cost of operation per ton!

But the railway overhead is only half of the story. Our factory buildings to the value of over 13 billion dollars, our machinery to the value of over 6 billion dollars, and our public utility plants worth 3 or 4 billion dollars match the railway investment and leave a balance to spare. The interest at 5 per cent on this industrial investment of 20 billion dollars amounts to a billion dollars and the cost of keeping it up in idleness or in overtime would easily be another billion.

The two billion dollar railway overhead added to the two billion dollar industrial overhead make a four billion dollar national overhead. How can we conserve the industrial overhead? By increasing the volume of production even as by increasing the volume of railway traffic. By producing twice as much goods so that the railroads will have twice as much to haul.

More production is in turn the remedy for the high cost of living. All our tinkering with prices will be of no avail unless we produce the goods.

For when we place prices ahead of production we are putting the cart ahead of the horse. Prices is the cart and production is the horse that draws the load. If we look after production prices will take care of themselves, while if we interfere with prices we may stop production. The reason for all this is that high prices stimulate production, increase the supply of goods and thus automatically usher in lower prices. That is why an economist said that the remedy for high prices is still higher prices. On the other hand if we force down prices arbitrarily, we will discourage production and cause a shortage of goods and still higher prices.

Prices are really only the thermometer that shows the condition of business. High

The price thermometer now registers 100 degrees in the shade but we cannot cool the air by breaking the thermometer.

Equity For Ship-Owners

PRIVATE ship owners have for many years suffered under the inability to recover damages for accident caused by the negligent navigation of any public vessel belonging to the United States Government. In such cases nothing could be done until a special bill had been passed by Congress authorizing legal proceedings. Often years elapsed before the special act was passed allowing suit.

Witness the case of the Mississippi River steamer *Esparta*. In 1905 this ship collided with the United States Lighthouse tender *Magnolia*, then carrying the President of the United States. The United States filed a libel against the *Esparta* to recover damages. The District Judge held the *Magnolia* solely at fault and dismissed the libel. The United

States appealed, but the Circuit Court of Appeals for the Fifth Circuit affirmed the opinion of the Court below. This was in 1908, three years after the collision. To this day, however, the owner of the *Esparta* has been unable to obtain any compensation. Though the merits of the case were decided in its favor, the owner of the vessel has been forced to shoulder uncollectable costs and disbursements and counsel fees in two courts.

Under the present system it is very difficult to secure permission even to institute litigation. The right to sue the Government direct was first given by the act of February 24, 1855 (10 Sta. 612), establishing the Court of Claims. This court was reorganized and its powers extended under other acts. But jurisdiction under these acts is limited to contract claims. The only general legislation covering suits against the United States in admiralty is the provision embodied in a recent Appropriation Act authorizing the Secretary of the Navy to adjust claims involving not more than \$500. This is wholly inadequate.

Congress has already, in the past, waived the Government's sovereign right of immunity against suit. The reasons which prompted Congress to establish the Court of Claims apply now with equal force to designating the Admiralty Courts to try suits in admiralty against the Government.

A bill, H. R. 7124, July 9, 1919, authorizing suits against the United States in Admiralty, was introduced at the present session of Congress on behalf of the United States Shipping Board. Unfortunately it is limited to merchant vessels. The real need of the time is a right of action to recover damages for the negligent navigation of public vessels of the United States.

At a hearing on this bill, therefore, before the House Committee on the Judiciary, representing a committee of the Maritime Law Association of the United States it was suggested that the bill be amended by striking out the word "merchant," so that the act would apply to all vessels, whether public or merchant; and pursuant to leave then granted, the committee filed a brief in support of such an amendment. A further hearing was held.

This amendment is badly needed, for, while the pending bill embodies desirable administrative features, it excludes by its terms relief for damages caused by collision with Government vessels. The committee is advocating extension of relief to such cases by merely striking out of the bill the word "merchant." It is believed that the only possible ground for denying the right of suit in connection with vessels operated by the Army or Navy or Treasury Departments is that they ought not to be subject to local process which might interfere with their performance of government service through actual seizure and detention. That point, however, has been completely covered by section 2 of the bill.

The members of the committee of the Maritime Law Association are Charles S. Haight, Van Vechten Veeder, Edward E. Blodgett, Floyd Hughes, Oscar R. Houston.

An illustration of a woman in profile, wearing a dark hat and a light-colored blouse with a dark skirt, operating a Royal typewriter. A man in a suit is standing behind her, looking at a document he is holding. The typewriter is a vintage model with the 'ROYAL' brand name visible on the carriage. The scene is set in an office environment.

Rush Stuff

Direct dictation—under pressure against the clock—the “Royal” shows its mettle. *Now* you can give thanks for the sterling construction—of the sure-footed escapement that never skips a letter—for the “Royal” accelerating typebar that *cannot* jam. The “Royal” takes the strain off the operator and it can stand the strain itself. Typists prefer it—big business chooses it. The “Royal” ends the trading-out evil.

Telephone for a “Royal” demonstration.

ROYAL TYPEWRITER COMPANY, Inc.
Royal Typewriter Building, 364-366 Broadway, New York
Branches and Agencies the World Over
Chief European Office: 75 Queen Victoria Street, London, E. C.

ROYAL

COMPARE • THE • WORK



Un-retouched photograph showing Goodyear Cord Tires still in service, after nearly a year, for The Wadley Company, Indianapolis, Indiana

Copyright 1920, by The Goodyear Tire & Rubber Co., Akron, O.

GOODYEAR

Pneumatics Protect Loads for This Produce Company

"PNEUMATICS offer all-round advantages over solid tires in our hauling—save trucks, loads and improve working spirit of drivers. They require 1½ less gallons of gasoline on a 90-mile run. Solid-tired trucks sway over the road but trucks on pneumatics run straight. Goodyear Cords are giving excellent service."—P. P. Triller, Purchasing Agent, The Wadley Company, Produce Wholesalers, Indianapolis, Ind.

Twenty-five motor trucks distribute poultry, eggs and butter for The Wadley Company throughout central Indiana.

During the past year Goodyear Cord Tires have demonstrated their ability to reduce time and costs in comparison with solid tires in this service.

A 90-mile trip has been made repeatedly on the pneumatics in 3 less hours with 1½ less gallons of gasoline than when covered by a solid-tired truck.

Due to the jarring and shifting action of trucks on solid tires delicate produce has been damaged frequently, whereas the pneumatics prevent such loss.

Mud has stalled the solid-tired trucks, but the gripping Goodyear Cords have proved dependable under all adverse road conditions by reason of their firm traction.

An official describes the present mechanical condition of a Goodyear-Cord-equipped truck as being far

better than could be expected on solid tires after a similar long term of hard work.

The photograph at the left affords additional and important evidence by showing Goodyear Cord Tires still on duty after nearly a year of continuous hauling.

So this narrative confirms the many other records of Goodyear Cord Tires that have saved trucks, loads, fuel, time and labor.

It indicates the force of Goodyear pioneering work in developing Goodyear Cord Tires, Tubes, Rims and Repair Materials, and also in co-operating with others developing proper engine pumps, air gauges and vulcanizing equipment.

Information concerning pneumatic equipment for motor trucks and its results can be obtained from local Goodyear Truck Tire Service Stations, or by writing to The Goodyear Tire & Rubber Company, at Akron, Ohio.

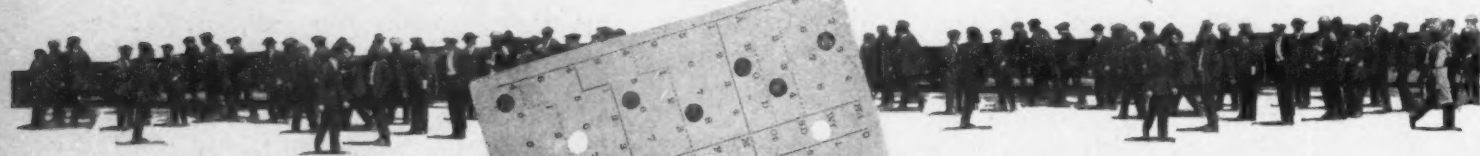


CORD TIRES

The Ten-Year Harvest

Our army of census enumerators is all set to garner the decennial crop of facts and figures which, this time, will even include the chickens and the bees

By H. F. DRIVER



LIFE has been full of dull moments for the statistician of late. Raw materials have been scarce. Over and over again he has idly thumbed the cards of sex, race, age, occupation, color and literacy of the population according to the census of 1910, but they have long ceased to be of interest. With the exception of a few futile attempts at estimates, he has been forced to allow a whole decade of changes of a most unusual and fascinating character to pass by unnoted while he patiently awaits the fourteenth decennial census.

As the first of January, 1920, draws nearer he brightens with anticipation. Curves, charts, tables and like statistical indulgences dance before his mind's eye as he watches the Census Bureau assemble an army of 87,000 enumerators whose business it is to be to reap a harvest of the intimate details in the family life of Uncle Sam's millions and to number the birds and the bees of the air, the beasts of the fields, the quarries of the earth, the wheels of the factories, the deaf, the dumb and the blind.

The old promise of the eventual enumeration of the hairs of one's head, by some doubted and by others considered highly problematical, fades in interest with the task before the Census Bureau for 1920. In an effort to anticipate the insatiable curiosity of statisticians, economists and legislators, an inventory of our national lands, industry, livestock, natural resources and people has been planned which will be the most complete of its kind ever made in 130 years of census taking.

A cursory glance at the 140 schedules compiled in the Census Bureau with the assistance of our friends, the statisticians, would lead one to believe that nothing that could be counted had been omitted. This virtually would have been the case had a provision been made for a fish census.

Too Complete, In Fact

THE census for 1910 was by far the most complete that had been made up to that time. In fact, so complete was it that many of its features have been excluded this year as being irrelevant and unnecessary. Others have been added, however, and as it stands on the eve of the departure of the enumerators for their decennial harvest of facts and figures, the fourteenth census promises to satisfy the most captious statistical appetite.

Briefly, it provides for the following: one population schedule, one agricultural schedule, with supplementary schedules for forestry and forestry products and for irrigation and drainage; one general manufacturing schedule with 68 supplemental schedules, a schedule for livestock not on farms, a schedule for

Here is the sort of card that will represent you in the files of the Census Bureau at Washington. The punched holes tell the complete story of John Doe, a paper-hanger of Detroit. He is thirty-five years old, a native of Denmark and he has taken out his first papers. He speaks English but he can't read or write. He has been divorced and remarried, and has five children. He earns \$1,400 a year and he owns a small house which is mortgaged. He keeps a goat

mines and quarries and one for the deaf, dumb and blind.

Former tabulations of figures to the contrary, the fourteenth promises to exceed all other censuses in the matter of general interest. Four years of war have done queer things to our tables and charts, to say nothing of the general wear and tear of ten years of growth and fluctuation in our population and industries.

The new figures on population will be of primary interest. It is expected that the population of Continental United States will be settled at between one hundred and five and one hundred and ten millions. Ancient interurban rivalries between such cities as Cleveland and Detroit, Los Angeles and San Francisco, Baltimore and Pittsburgh and Boston and St. Louis will be settled as soon as the first figures are obtainable. Then there will be all those interesting computations on the proportions of the negro population, the growth of the foreign-born population, and all the percentages and cross-filings of age,

nativity, sex and various states of domestic relationships which will form the basis of computations made between now and 1930.

A close rival in interest to the population figures will be the farm census this year. The Bureau expects to show an increase of approximately one million farms since 1910, when the farms were enumerated at 6,361,502 and valued at more than 40 billions of dollars. The new schedule will present a detailed picture of Uncle Sam's problems on the farm.

Increases in the acreage of land under cultivation will be shown, yields of individual crops, numbers of domestic animals, poultry—and even bees; the extent of farm facilities including the number of tractors on the farm, of automobiles and whether the operator enjoys the privilege of telephone, running water and gas or electricity.

Following this will be a page or more of the schedule devoted to a detailed inquiry on oats, barley, rye, kafir, timothy, alfalfa, soya beans, peanuts, tobacco, hops, hemp, lettuce, green peas, onions, watermelons, citrus fruits, pecans, currents and whatnot. Incidentally there is a long dotted line devoted to the sinister item of cider and searching questions are asked as to what percentage of the 1919 yield was made into vinegar. Several square inches are also devoted to the little matter of grapes—and grape juice.

Of Interest to Business

THE manufacturing schedule for 1920 will also be exclusive. The last census of manufacturers covered the industrial operations of 1914, making the 1920 census a statistical picture of our industries during the period of transition from a war to a peace basis. It will show 300,000 or more manufacturing establishments, between nine and ten million proprietors, officials and employees, and a total value of approximately fifty billion dollars. A general schedule with inquiries covering the character and extent of the industry and the capital invested and one of the 132 supplemental schedules will go to each establishment. By this means it will be possible to show the great growth of certain industries fostered by the demands of war and our inability to rely upon foreign importations.

Chambers of Commerce throughout the country have assisted the Census Bureau in outlining the plan for the manufacturing census. The country has been divided into 69 industrial zones, each zone to contain not less than 100,000 population and representing a production of not less than fifty mil-

"We Would Not Be Without It"—



Reproduction of an actual photograph of the Accounting Office of the American Writing Paper Company, Holyoke, Mass., where the Monroe carries the burden of all the figure-work.

—Mr. F. R. Gee,
Comptroller of
the American Writing
Paper Company,
writes:

"We have found the Monroe to be a great labor-saving device. For any one desiring a large number of statistics which include percentages and prices per unit, the calculations can be made more accurately and quickly on the Monroe than on any other machine I know of. Knowing its merits, we would not be without the Monroe."

—Saves The American Writing Paper Co.

THE world's largest manufacturer of quality paper have a great daily volume of detailed figure-work. With them speed, accuracy and simplicity in their figure-work are absolutely essential.

Two years ago they ended the search for a machine that would speed up their financial statements, cost analyses, statistical reports, payrolls, invoice extensions, sales sheets, etc. Since then, they have put the heavy burden of their figure-work on the Monroe. They are now using 30 or more machines with the results indicated in Mr. Gee's letter.

Your business has the same need for speed, accuracy and simplicity in figure-work. With the Monroe you need no trained operator. Any employee in your office can master the simple Monroe principle in a few minutes.

With the Monroe you can see as you go that your work is correct. There on the proof dials is a visible check of each step of your work. You turn the crank forward to add and multiply, backward to divide and subtract.

!Many of the thousands of Monroe users first learned what the Monroe would do for them in their business by sending in the coupon. The coupon below is for your convenience. Mail it today—no obligation involved.

MONROE

Calculating Machine



Monroe Calculating Machine Co.

Woolworth Bldg., New York City

Offices in Principal Cities

Monroe Calculating Machine Co., Woolworth Bldg., New York City
Without obligation to us, please send your "Book of Facts" showing how the Monroe will save time in the figure work of our business.

Your name _____
Address _____

lions of dollars. Cities are grouped by industrial affiliation and will be covered by an army of special agents of the Census Bureau.

The census of mines, quarries and oil wells will throw light on many changes in the last decade and an immense increase in the value of products. The census of forestry and forest products is the first of its kind as this industry has never been treated as a separate branch of the decennial census.

The actual enumeration is but the first step towards the completed census. Once the schedules are in the hands of the Census Bureau, the business of tabulation and classification becomes a machine operation conducted by devices useful only in the Census Bureau of the United States and which have been invented and are built by the men in its employ.

The written information coming in on the enumerators' sheets is immediately transferred to punched cards. These are the cards which are preserved and filed by the Census Bureau. To the layman it would be as easy to get information out of a porous plaster, but a small corps of trained Government employees can translate from them all the important facts in the life of any individual within the confines of our United States. As soon as the cards are punched they are run through automatic electric machines which assort them into groups. From there they are sent through the tabulating machine where in one minute 400 cards are counted, imperfect ones rejected, and final results are assembled in printed figures on handy sheets. With these machines comes the practical assurance that the publications of the Census, formerly issued a year or two after the enumeration, will be issued within a few months.

In previous censuses the enumerators have made their canvass during the early summer months when outlying districts have been more accessible, but past experience has proved that the floating population is greater at this time, many are in the process of breaking up their homes for the summer and much guess work is done as to the extent of crops and yearly productions. This year the census taking will begin January 2 in the hopes of catching everybody at home, the crops harvested and the year's work completed. City districts will be completed within two weeks and the rural districts within 30 days, making it possible for the Census Bureau to issue its first figures some time in the early spring.

They're on to All the Tricks

EXPLICIT directions have been given each worker this year, obliging him to enumerate each person at the place where he regularly sleeps, not where he is employed and not where he may be temporarily sojourning. This emphatic rule as issued by the Census Bureau immediately suggests our great national decennial temptation—padding the Census. A minimum of two cents and a maximum of four cents a head, by the gently tolerant attitude of ambitious legislators and by the enthusiastic prognoses of the local press, many a poor enumerator has been goaded into making two children bloom in families where but one had grown before; caused the dead to rise and transfer their names from tombstones to population schedules, and to perform other necromancies common in the art of enumeration.

But the Census Bureau is "wise"; not one of these tricks, no matter how good it sounds, but was tried out in some form and discovered in 1790 when the first census was

taken for President George Washington. The geographer of the Census Bureau, C. S. Sloane, preserves in his memory a list of these misdemeanors with all their chronological ramifications. It is no effort for him to recall, how in 1890 one State, in the Middle West, "padded" until an extra congressional district was made; how a systematic enumerator in Maryland took the census in the homes of his town, later of the same people at the office buildings and factories and again in the railway station; how another member of the profession added an extra child to each family, and how one city on the Pacific Coast employed practically all these tricks at once and got a start of 110,000 before Washington officials stepped in and placed it at 85,000. All these and countless other tricks the Census officials are on the alert to catch.

Some people are hard to impress with the fact that this amount of trouble is taken every ten years by the United States Government for the sole purpose of obtaining figures alone and not for personal information. Among the foreign population it has been found necessary to issue an a-b-c pamphlet to be used in Americanization classes in order to insure the enumerator a warm reception and a willing ear and safe passage from house to house. But in spite of the care and tact that he employs it is fairly safe to predict there will be more girls of 18 in 1920 than there were girls of 8 in 1910; that there will be a greater number of men of 45 than there were men of 35 in 1910, and that 25 will be the popular age for married women of all classes, color and stages of literacy.

Figures show that human nature has changed very little since the first Census in 1790.

The Raid on Davy Jones

(Continued from page 23)

the ship which yielded a winter's supply of white flour to our boys. That is just a skeleton of one of some forty-five big tales of some forty-five big jobs which the *Favorite* put over.

The *Favorite* is a 1,300-ton ship with a complete equipment of gasoline, steam, and electric pumps and of air compressors. She carried 49 diving outfits and 65 qualified divers. She was built for use in the Great Lakes, came down through the Welland Canal, and was pressed into overseas service. Work on the stormiest sea on earth was not made easier by the fact that she thinks nothing at all of rolling to 60 degrees and then coming back; for she was built for freshwater use.

I have dealt only in a most general way with the limitations of the diver as to depths, for that is really another story. It may be worth while, however, to explain briefly the physiological reasons why a man may be severely injured by pressures which he finds endurable.

One reason is that oxygen at excessive pressure is a poison; and if a man remains in it too long, he dies. Men who work at great depths absorb such quantities of oxygen that they work, as it were, under forced draft, and experience great exhaustion afterward.

The other chief reason why great pressures are bad is the taking up by the blood and tissues of nitrogen in solution. The pressure at 281 feet is 130 pounds to the square inch. That, on a man's body, gives a total of about 270,000 pounds, the weight of a large freight locomotive. The reason the man

isn't crushed is that his body takes up the pressure through his lungs, and so conditions are balanced.

Air, of course, is pumped down into the diving suit to keep it distended. The nitrogen in the air, unlike oxygen, does not disappear in chemical combination when it enters the blood. It is in solution. From the blood it is taken up by the watery tissues, and last of all by the fatty tissues, and these give it up most slowly also. The mass of the whole body being 20 times that of the blood, takes up about as much nitrogen as the blood.

The result of this is a super-saturation of nitrogen the moment there is diminished pressure. The consequence of bringing a man to the surface quickly, therefore, is precisely similar to that of uncorking a bottle of ginger ale, or any charged liquid. Bubbles form, and the only remedy is recompression. It is, however, possible to open a bottle of ginger ale so slowly that no bubbles form. Decompressing a man gradually gives the same kind of a result. The nitrogen passes out of his body little by little.

That is why it takes four hours to decompress a man who has been down 281 feet for an hour. And that is why the practicable results of work at that depth are so slight.

Because of the slowness with which fatty tissues decompress, fat men make poor divers, and plump men only fairly good ones. It is a thin man's profession. If a plump man will dive, he is limited to ten fathoms, and to short exposures. Men more than 45 years old should not dive at all.

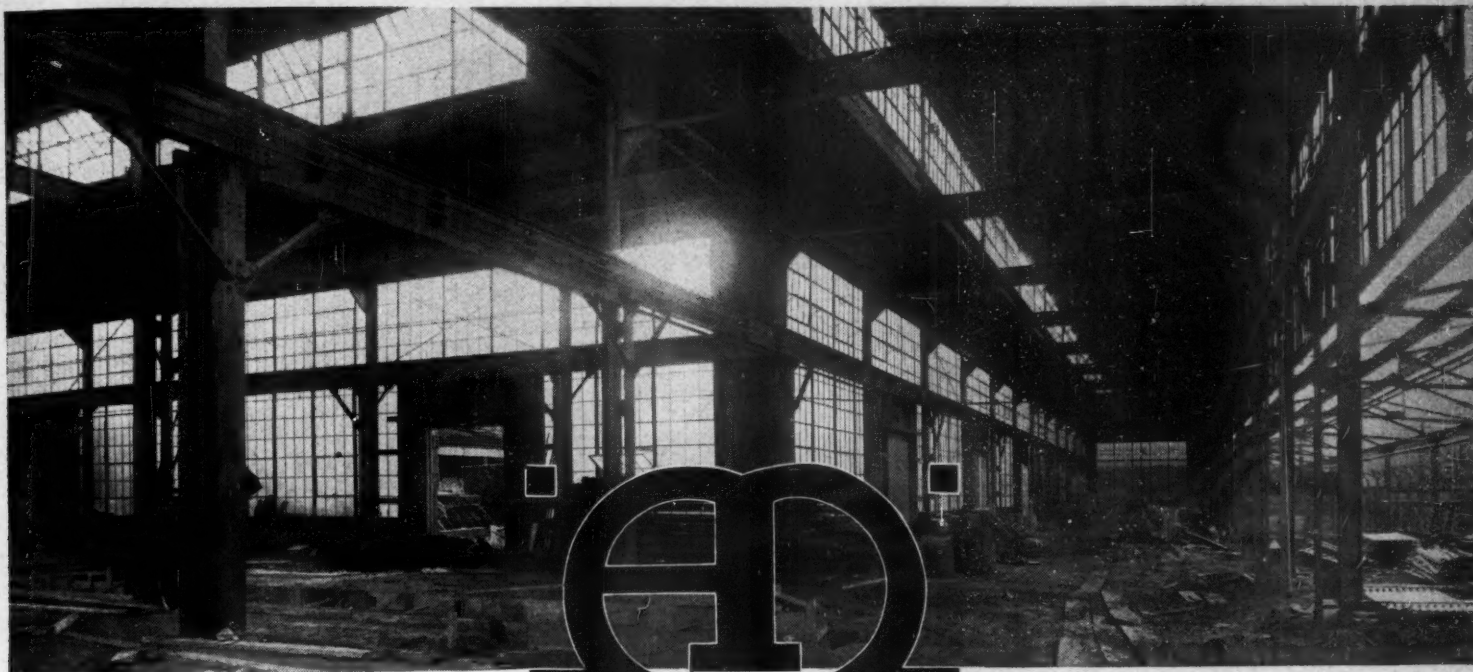
It is a curious example of the lightness with which men knowingly take risks rather than observe troublesome precautions, that divers are often unwilling to spend the time they should in decompressing. They may feel all right for a time after too short a decompression; but in a few hours comes a soreness and discoloration of the skin, then acute pains, then the bends—and then nothing but recompression will do any good.

But the troubles of the diver don't end there. He may "blow up"—that is, he may lose control of his suit and rise suddenly to the surface, with consequent danger from the quick decompression. Or he may fall under water—that is, he may descend so fast that the air pressure can't be increased fast enough to keep up with him. The result is a "squeeze" under water. Even at five fathoms the pressure doubles. If the distance of the fall be slight, he may escape with a bleeding at the mouth and nose. If it be great, he is pushed up into his helmet till he fills it, without a drop of blood in the lower part of his body. Many a man has been buried in his helmet.

Another acute danger is that of fouling. The life-line or air-line may get twisted or caught; and a delay may result which ends in exhaustion, cold, oxygen poisoning, suffocation, or drowning. Most under-water accidents come about that way.

The telephone becomes useless at great depths. He can't be understood over the telephone and has to rely in signals with his life-line. At 2.5 atmospheres a man can't whistle. And, of course, all this adds to the danger of the work.

These, then, are the vital factors that enter into the salvage problem at present. Still, there is the great prize, part of it within reach, and part of it just out of reach. How far the engineering profession will move toward a solution of the question during the next few years will be a thing worth the watching.



Interior of a special building of Austin design now being erected for the Timken-Detroit Axle Company, Detroit, Mich., by The Austin Company



AUSTIN and TIMKEN

The picture shown above illustrates the second building which The Austin Company have designed and built for The Timken-Detroit Axle Company, Detroit, Mich.

The quality of Austin engineering and construction service has added this nationally known manufacturer to the already long list of Austin clients who have placed repeat contracts with the Austin Company.

The first contract consisted of a forge shop, heat treating building and machine shop and was of Austin standard construction.

The second operation, just being completed, is an extension to the plant and is of special design.

Send for an Austin representative to discuss building problems with you.

Write for an Austin Book of Buildings

THE AUSTIN COMPANY, Cleveland, Ohio
Industrial Engineers and Builders

For U. S. A. and Canada, address nearest office:

CLEVELAND - - - 16120 Euclid Ave., Eddy 4500
NEW YORK - - - 217 Broadway, Barclay 8886
PHILADELPHIA - 1026 Bulletin Building, Spruce 1291
PITTSBURGH - - - 493 Union Arcade, Grant 6071

DETROIT - - - 1452 Penobscot Bldg., Cherry 4466
CHICAGO, 1374 Continental Com'l Bank Bldg., Wabash 5801
SAN FRANCISCO - - - 936 Pacific Bldg., Sutter 5406
DALLAS, TEXAS - - - 627 Linz Bldg., Main 5914
PARIS, 19 Avenue de l'Opera

Export Representatives: American International Steel Corporation, 120 Broadway, New York City.
American International Steel Corporation, 26 Victoria Street, Westminster, London, S. W. 1, Eng.

AUSTIN

STANDARD FACTORY-BUILDINGS

As We Face the New Year

(Continued from page 9)

to plant wheat is gone, and the natural laws of supply and demand have resumed their way. Of all producers the farmer need give us the least concern, for he is ever on the job and always producing more food, even under unfavorable weather, than this country can possibly consume. For he is possessed of that industry and commonsense which always mark the man living close to nature and the soil. From all over the Union there constantly comes to me the story of what the farmer is doing in innumerable small industries of much wealth producing nature—little drops of water, little grains of sand, that make this mighty nation of ours. Out in Butte County,

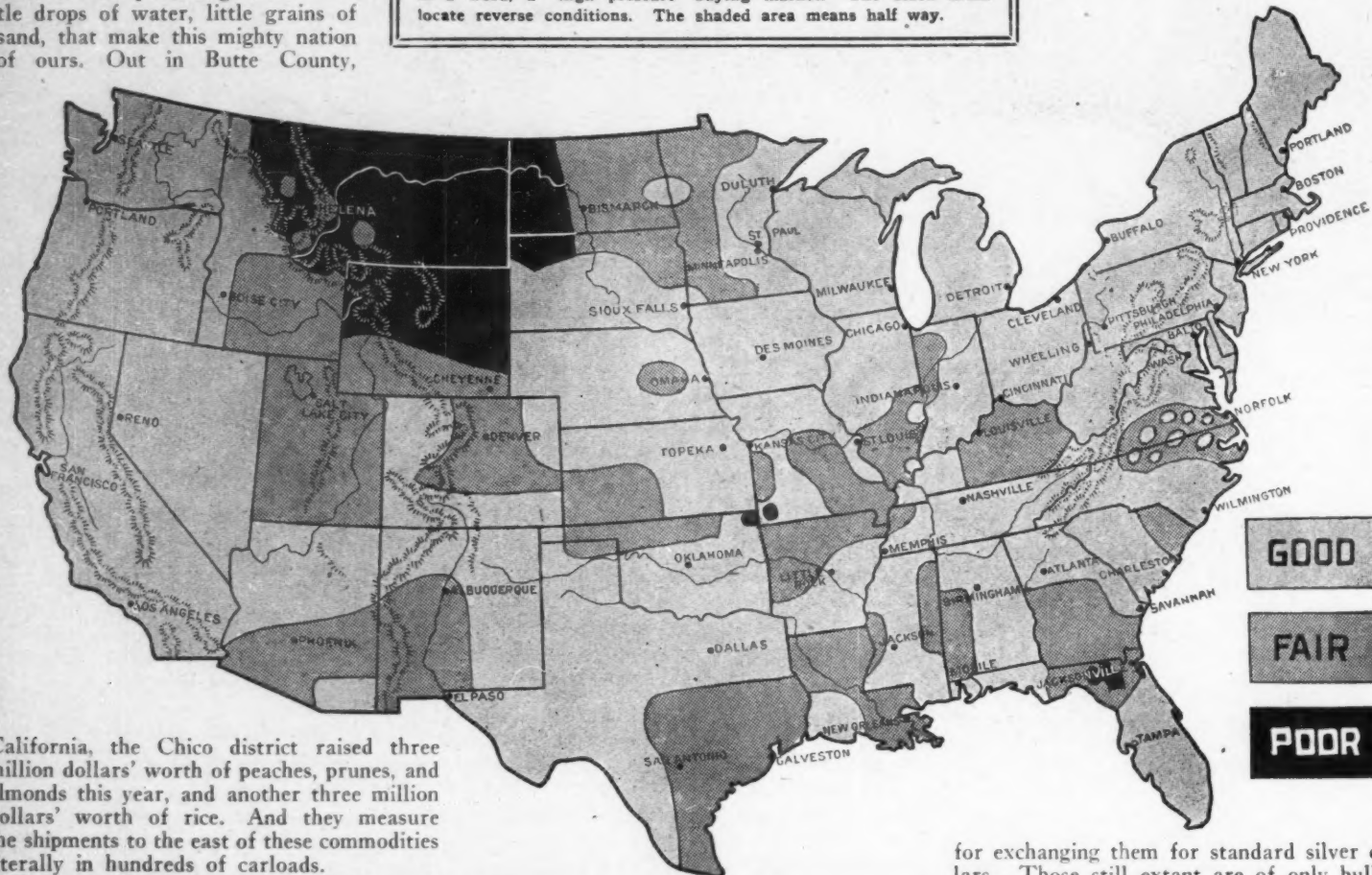
as England and Japan. Possibly the appeal of this universal fruit of the temperate zones has much to do with the great success of these commercial enterprises. Its story and popularity is as old as the human race. It was the fruit that first got us all in trouble. In the Old Testament the story of the perfection of beauty is that of "apples of gold in pictures of silver"—while in the Song of

Many coins rarely if ever seen in circulation are still officially outstanding in substantial quantities. Among these are \$40,000 worth of copper-cent pieces made in the early days of the country, more than \$500,000 worth of two-cent pieces, and \$655,000 worth of three-cent pieces. They are still of full face value—and sometimes more to coin collectors.

Many trade dollars—of the variety issued some forty years ago in a futile effort to compete in the Orient with the far-famed Mexican silver dollar—have never come back. They were not of legal tender for more than \$5, though when abandoned, a reasonable time was given

Business Conditions, December 11, 1919

THE map shows at a glance the general business conditions of the country. It is prepared by Mr. Douglas as a weather map of business, and should be so read. The light areas indicate large bank deposits, promising crops, industrial activity, evidence of an economic evolution, creating new needs in home, shop, and farm—in a word, a "high pressure" buying market. The black areas locate reverse conditions. The shaded area means half way.



California, the Chico district raised three million dollars' worth of peaches, prunes, and almonds this year, and another three million dollars' worth of rice. And they measure the shipments to the east of these commodities literally in hundreds of carloads.

Then there is the story of apples, of twenty-five and a half million commercial barrels of about 140 million dollars in value. The great apple producing states are as far apart as Washington and the northwestern commonwealths, New York, Missouri, Virginia, Arkansas and Michigan.

The old farm orchard of romance, poetry and story is fast passing away as a factor in production. For it is seldom pruned or sprayed, and consequently steadily deteriorates under the ceaseless attacks of predatory insects and disease, while the story of commercial production is that of an extraordinarily complex and intelligently conducted business. It embraces every form of scientific horticulture, the study of soils, of chemistry, of meteorology, of merchandising, of advertising, of selling, of distribution, and of business cooperation.

It reaches its highest expression in the irrigated sage brush deserts and alkali plains of the northwest and the Pacific slope, where thousands of miles distant from their best markets, the great apple growers' associations distribute their fruit in every state to the union and to foreign countries as far away

Songs, which is Solomon's, the cry of the Shulamite maid was to be "stayed with flagons, and comforted with apples."

Today the farmer looms large upon the economic and political horizon. He has set the pace in Canada, where in the province of Ottawa he holds the balance of power in the legislature, and in the northwestern provinces his cooperative associations are fast getting control of every activity in agricultural life. These associations can neither be led nor controlled by politicians.

They are for farmers and their welfare, but so far are not dominated by class consciousness nor that blind devotion to class interest only, which usually makes most class organizations one of the hardest problems of democratic countries.

Our Temperamental Money

(Continued from page 17)

silver money is similarly accounted for; even \$100,000 worth of silver dollars being melted up annually in industry when bar silver could be purchased for much less than the money value of the coin.

for exchanging them for standard silver dollars. Those still extant are of only bullion value, except perhaps to collectors.

Likewise a substantial amount of paper money is still officially rated as "outstanding" but is never expected to return for redemption. It is estimated that one per cent of all paper money is lost or destroyed, and when such happens the Government profits. This is the case even with national bank notes.

Why are there not other species of coin, such as "one bit" or half-cent pieces?

That's a question for Congress, which fixes the kinds of money that shall be circulated. And Congress is governed by what is or appears to be popular demand. It is stated that there has been no general demand for the twelve-and-a-half or the one-half-cent piece, though there have been frequent sectional demands for them.

During the war the facilities of the mints and the assay offices were utilized for the many purposes aimed at winning the conflict. They looked after the gathering of platinum needed in the war industries, and took care of the vast amount of old treasure contributed to the Red Cross, melting the gold and silver into bullion for the making of money or the distribution in industry.

Note:

This announcement was featured by us several weeks ago, but its importance and the wide field of buyers interested, have led us to repeat it. *Federal Adding Machine Corp'n.*

A National Experiment to Reduce Sales Expense— In Which You May Participate



DO YOU realize that it has been costing you up to 45% of the price of every adding machine you buy, just to be induced to buy it?

For years the established price of a 9-column adding and listing machine has been \$300 or more. Nearly half of this represents selling expense, but the Federal Adding Machine Company is seeking to determine by means of a national economic experiment, whether this price cannot be greatly reduced.

We believe a great number of business men are convinced that adding machines are a necessity and are now ready to buy without having adding machines sold to them by expensive sales organizations.

Every business and financial house east of the Mississippi will receive through the mails within the next two weeks, an announcement of the Federal experimental selling plan—an offer of 1000 standard \$300 Federal Adding Machines at \$222.50.

We are doing this in order to determine the actual selling cost, and to establish the future selling policy of this company.

The "serve-self" idea is gaining recognition in all lines of business. That is, the wise economy of cutting out all expensive

"frills" in getting merchandise into the consumer's hands.

By being your own salesman, you can save in selling cost. When that cost in the past has run as high as 45%, it means a *real* saving to you. This is the idea behind this experiment, which we believe meets the new conditions and business needs of the present time.

We would have no trouble marketing the Federal along the old sales lines for \$300. It is the "last word" in adding machines, designed by the veteran adding machine designer and builder, Charles Wales, as the crowning result of his genius and experience. It is backed by a well-financed corporation, and is manufactured by one of the finest mechanical and engineering organizations in the country—Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.

But we know that right now American business men are demanding that needless waste be eliminated in merchandising methods just as truly as in factory methods.

Are we right? You who use, and need adding machines—would you rather BUY one for \$222.50 or BE SOLD one for \$300.

FEDERAL ADDING MACHINE CORP'N,
251 Fourth Avenue New York

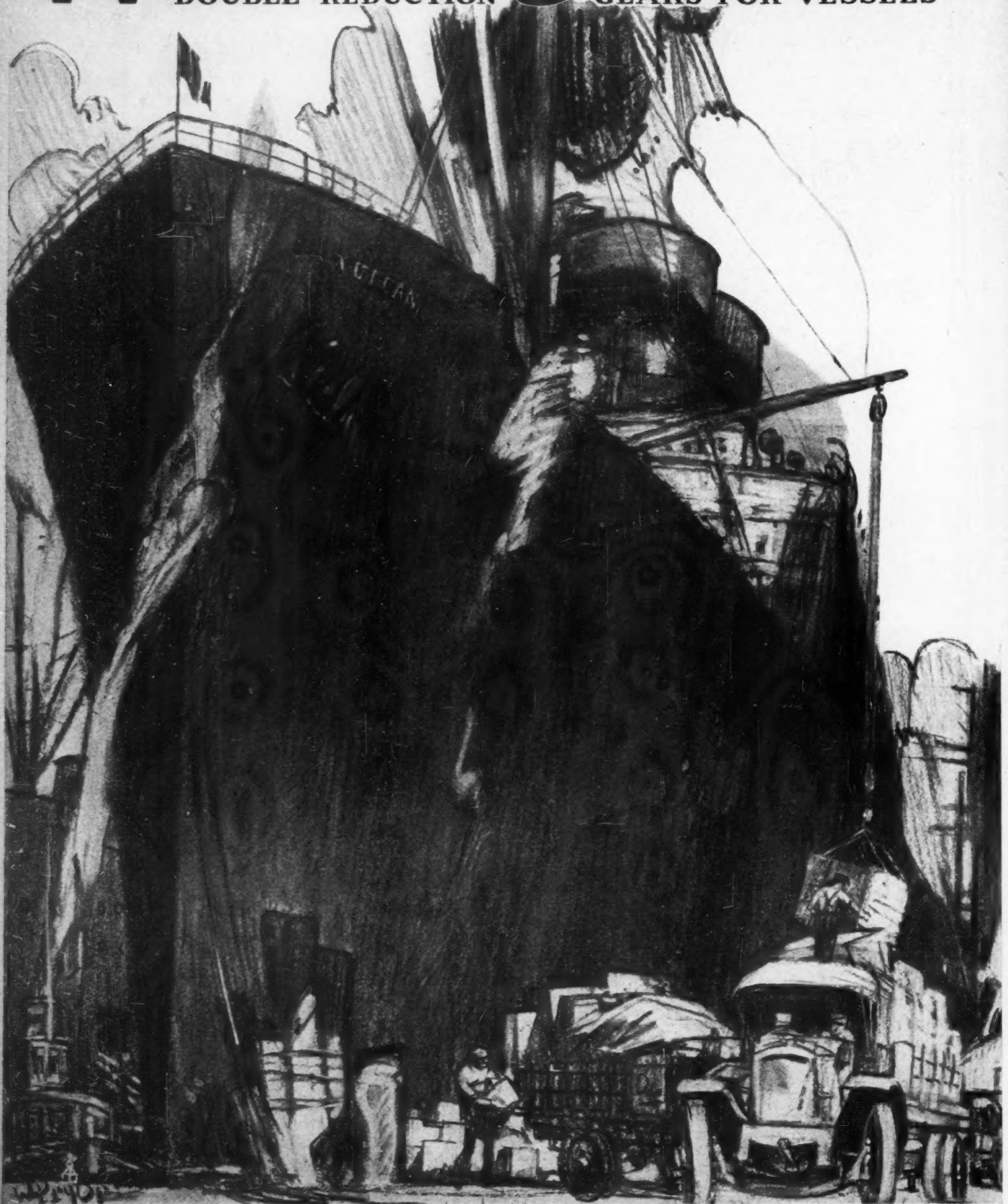
In constant use for five years by some of the largest corporations in the east, including the Federal Government. Exacting tasks have proved its merit finally.

The Standard Federal "A" Adding and Listing Machine has nine-column capacity, eighty-one keys; 13-inch carriage; roll paper holder; flexible keyboard; easy handle pull, (motor equipment if desired). Only half as many parts in the Federal as in other standard machines. Stronger construction, standardized interchangeable parts. Every item visible. Adding machine service guaranteed.



Westinghouse

DOUBLE-REDUCTION GEARS FOR VESSELS



Westinghouse

STEAM TURBINE MARINE EQUIPMENT



More Cargo—More Speed Less Coal—Less Cost

Cargo, speed and fuel — these are at the bottom of most of the ship owner's calculations. If to make an important gain in any one of these three respects is a long step forward, what does it not mean to be able to make such gains in all three?

That's what is accomplished when the bulky, complex reciprocating engine, with its great cylinders, gives way to the lighter, more compact Westinghouse Geared Turbine.

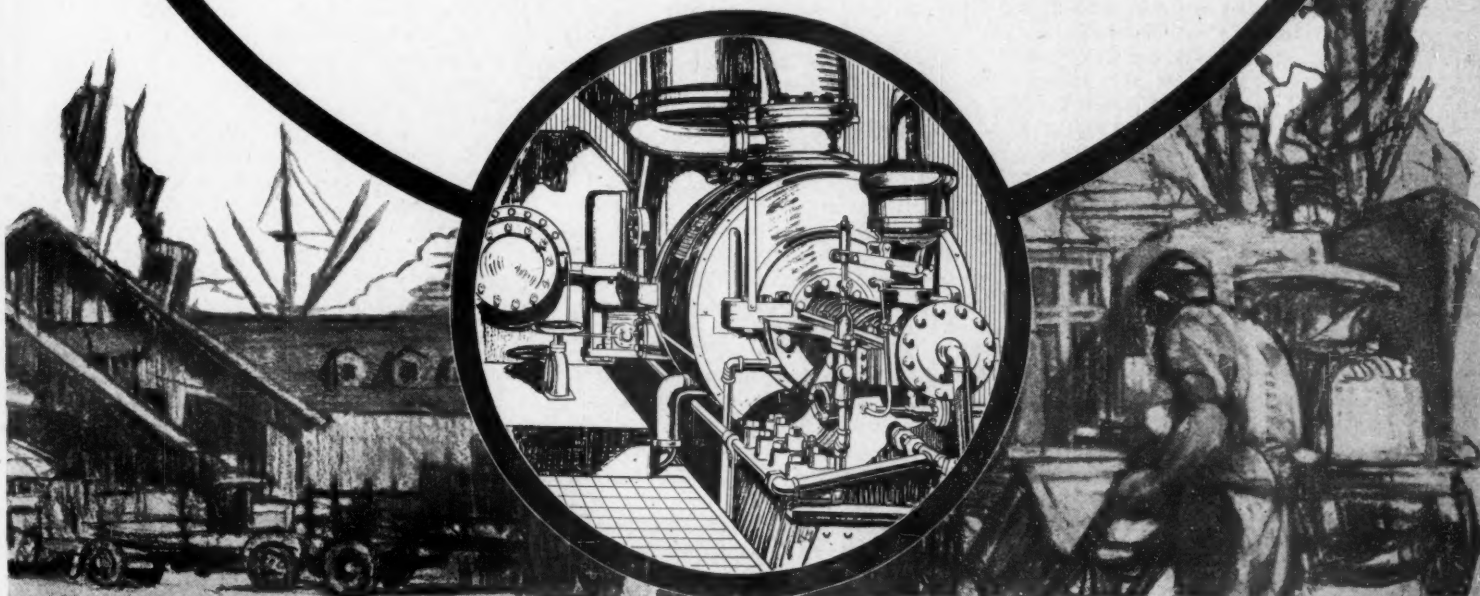
Because of its higher operating speeds, this prime mover has made possible weight reductions of from 25 to 50 per cent. Additional carrying capacity is thus made available for cargo.

Moreover, smaller boilers are needed and less coal, owing to the higher operating efficiency of the geared turbine.

Added to the important advantage of greater capacity is that of greater speed. Even at highest operating speeds Westinghouse Marine Turbines, with floating frame reduction gears, are characterized by reliability, ease of control and smoothness of operation.

Passenger liners, freighters, tankers, warships — ships of practically every type have found in this compact unit a means of adding to capacity and to speed. Today there are over 140 merchant ships whose logs record the ability of the Westinghouse Marine Turbine to lighten and speed the ship.

WESTINGHOUSE ELECTRIC & MANUFACTURING CO.
East Pittsburgh, Pa.



The Log of Organized Business

THE new International Chamber of Commerce, which will bring together into one association the financial, industrial and commercial organizations of the principal countries of the world, will be organized formally at a meeting to be held in Paris next June. Final plans for setting up machinery to launch the Chamber were made in New York just before the departure of the European commercial missions for their homes.

The formation of this new world trade body is regarded as one of the most important steps ever undertaken by organized business. The International Chamber will succeed the old International Congress of Chambers of Commerce, which held its last meeting just prior to the outbreak of the European war.

The initial steps towards organization of the new association were taken at the meeting at Atlantic City in October of the International Trade Conference, when a committee was appointed from each of the European missions to work out with an American committee plans for forming it. This committee held meetings at intervals during the stay of the missions in this country, agreeing finally on organization plans and the date for the first meeting.

The Paris meeting will be arranged by a new committee of twenty-five, with five members each from the United States, France, Belgium, Italy and Great Britain. John H. Fahey, of Boston, formerly president of the Chamber of Commerce of the United States, will be chairman of the general committee and each country will name a chairman for its section. The Chamber of Commerce of the United States will name the American members. The foreign sections will be appointed in the respective foreign countries after consultation between the members of the missions and trade and commercial associations.

The general committee will gather in Paris a month ahead of the first meeting of the International Chamber to perfect a constitution. It will decide also as to representation in the first meeting.

There will be maintained in Europe by the International Chamber a headquarters and a permanent staff. Policies will be decided by a board of directors, two members to be named from each country. A secretary general will be put in charge of the bureau. He will be assisted by a technical staff from each country. In addition there will be maintained in each country a bureau to serve as a liaison between the international headquarters and the business associations members of the Chamber.

It is planned that there shall be a system of referenda modeled somewhat after the system instituted by the National Chamber.

This new "Business League of Nations," as it has been called, starts out with the following declaration of its general purposes as outlined by the organizing committee: "To promote international commerce, to facilitate the commercial intercourse of nations, to secure harmony of action on all international questions involving commerce and industry, and to promote peace, progress and cordial relations between the countries and their citizens by the cooperation of business men and

In spite of fogs and squalls, the good ship forges right along, thank you, and there are events aloft and below that are eminently worthy to be recorded

their associations devoted to the development of commerce and industry."

At the first meeting only those countries which participated in the International Trade Conference will be represented, but business in the other nations will be brought into the organization as rapidly as is practicable thereafter.

Revenue For the Railroads

CHAMBERS OF COMMERCE and trade organizations have been urged by the National Chamber to impress on their representatives in Congress the need for the inclusion of the principle of the rule of rate making in pending railroad legislation. This rule, endorsed in a Chamber proposed by the referendum and National Transportation Conference, was designed as a means of yielding sufficient revenue to enable the railroads to furnish service that is required by the public.

In a letter sent to organizations, General Secretary Goodwin, of the National Chamber, says:

"All commercial organizations that stand for the rule of rate making—all business men who believe in it—should immediately communicate their views to their senators and representatives and urge them to do all in their power to have this principle incorporated in the law that will provide for the regulation of the railroads. In thus bringing to the attention of their congressmen the importance of a rule of rate making they will be carrying out the program adopted by their votes on referendum No. 28."

For Credits to Europe

A STUDY of the whole question of international finance and exchange will be undertaken by a committee just named by the Chamber of Commerce of the United States present a plan for supplying long term credits to Europe. This committee, to be known as the National Committee on European Finance, will take up all of the proposals thus far advanced for righting exchange and will recommend what it considers to be the best measure necessary.

The committee is headed by Harry A. Wheeler, vice-president of the Union Trust Company, of Chicago. James S. Alexander, president of the National Bank of Commerce, of New York, is chairman of the Executive Committee.

Organization of the committee is believed by the National Chamber to be a step towards solution of the most important peace time financial problem that has confronted the nation. Leading business men have expressed to the Chamber the belief that only by the full cooperation of the investing public and all of the financial, commercial and industrial interests of the nation can the present situation be relieved.

The Fight For a Budget

THE first referendum of the Chamber of Commerce of the United States called for institution of a national budget system. This referendum was sent out to a vote of member organizations on November 30, 1912. Since that time the Chamber has pursued the subject and at last it begins to look as if Congress is becoming interested.

President Wilson in the message sent to opening of the new Congress devoted considerable space to the need of a budget and took occasion among other things to say:

"I hope Congress will bring to a conclusion at this session legislation looking to the establishment of a budget system. That there should be one single authority responsible for the making of all appropriations and that appropriations should be made not independently of each other, but with reference to one single comprehensive plan of expenditure properly related to the nation's income, there can be no doubt.

"I believe the burden of preparing the budget must, in the nature of the case, if the work is to be properly done, rest upon the executive. The budget so prepared should be submitted to and approved or amended by a single committee of each house of Congress and no single appropriation should be made by Congress except as may have been included in the budget prepared by the executive or added by the particular committee of Congress charged with the budget legislation."

The Railroad Charts

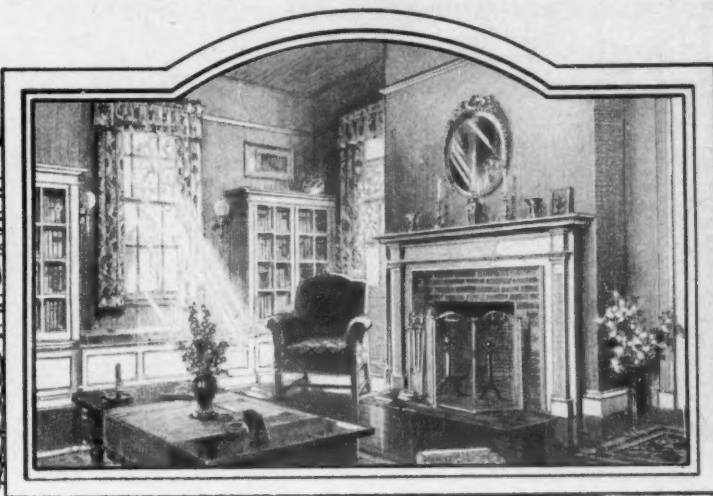
IN its October issue THE NATION'S BUSINESS published a chart showing in parallel columns the seven proposed plans for railroad legislation that were before Congress at that time in the form of bills. At once there came from all parts of the country a demand for reprints of the chart. Business men and bankers, railroad executives and railroad employees, university professors and high school students, public libraries and private individuals wrote or telegraphed for copies. It was a most striking illustration of the nationwide interest in the railroad problem. Chambers of commerce asked for from 5 to 500 copies to distribute among their members. Four daily papers in New York and scores of daily and weekly papers in smaller cities reprinted the complete text. Before December 1 the total circulation exceeded 3,000,000 copies, and still the demand continued.

In its December issue THE NATION'S BUSINESS printed a second chart in which the House and Senate railroad bills were compared, point by point. Again, men and women in all parts of the country asked for reprints. If the demand continues at the present rate, the second chart will be given an even wider distribution than the first.

Readers of THE NATION'S BUSINESS can obtain copies of either or both of these charts by writing to the Chamber of Commerce of the United States, Washington, D. C.

Farm Congress Against Reds

THE fourteenth annual session of the International Farm Congress, recently held at Kansas City, Mo., and attended by over two thousand delegates, passed a set of resolutions which would seem to make it highly



Economy and Beauty Can Unite in Your Housing Projects

ECONOMY and beauty recommend Curtis Woodwork to those leaders of industry who seek to help their workers to better homes and better lives.

The room above is indicative of Curtis Woodwork and the home spirit it will engender. Entrances, doors, windows, bookcases, cupboards—all are unquestionably good in design and workmanship, yet all are remarkably reasonable in cost.

Standardization in sizes and designs makes this combination of economy and beauty possible. Then, too, there is the aid of great volume of production. Today there are ten manufacturing and distributing plants, making and shipping every day thousands of doors and windows with all the trim and built-in furniture to go with those many doors and windows into homes.

This productive power means something, even today, in the way of delivery, a feature of importance.

Besides this producing service there is a bureau maintained to give you or your organization real help in your industrial housing plans. At your request a representative will call to explain how Curtis Woodwork—standardized in designs and sizes and available wherever there is a lumberyard—and Curtis Service can help in your housing problems.

Or, if you prefer, we will send you literature that pictures our product and tells of our service. This service to industrial heads is, we feel, a happy climax to over fifty years of furnishing a product of growing excellence and reasonable cost to the individual home-builders of our nation.

CURTIS SERVICE BUREAU, CLINTON, IOWA

MANUFACTURING AND DISTRIBUTING PLANTS AT

Oklahoma City, Okla.
Topeka, Kan.

Detroit, Mich.
Minneapolis, Minn.

Lincoln, Neb.
Clinton, Iowa

Sioux City, Iowa
Dayton, Ohio

Wausau, Wis.
Chicago, Ill.

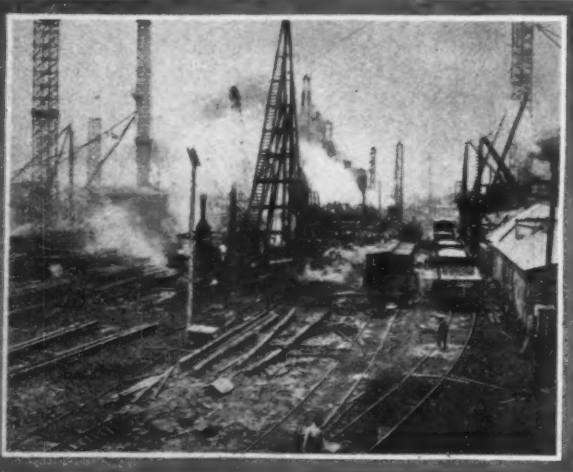
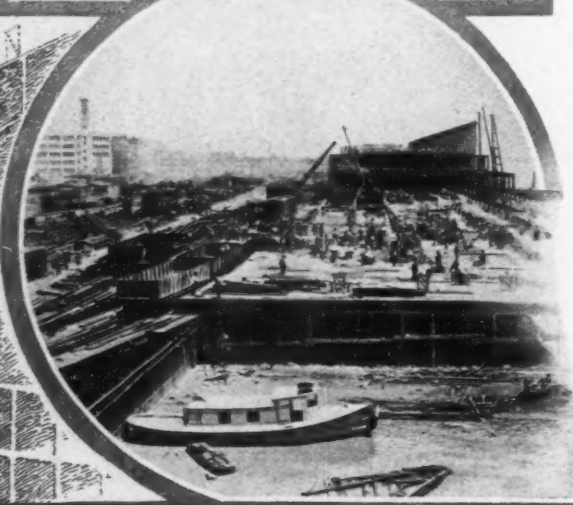
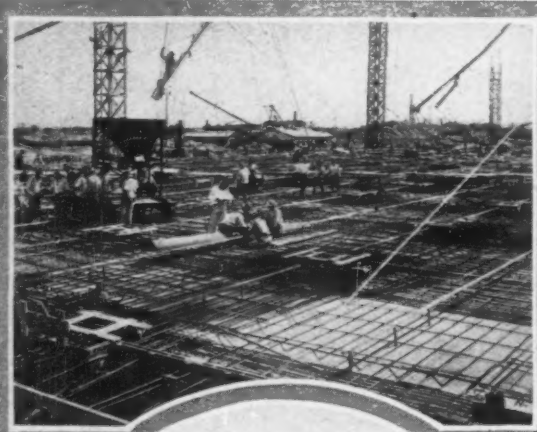
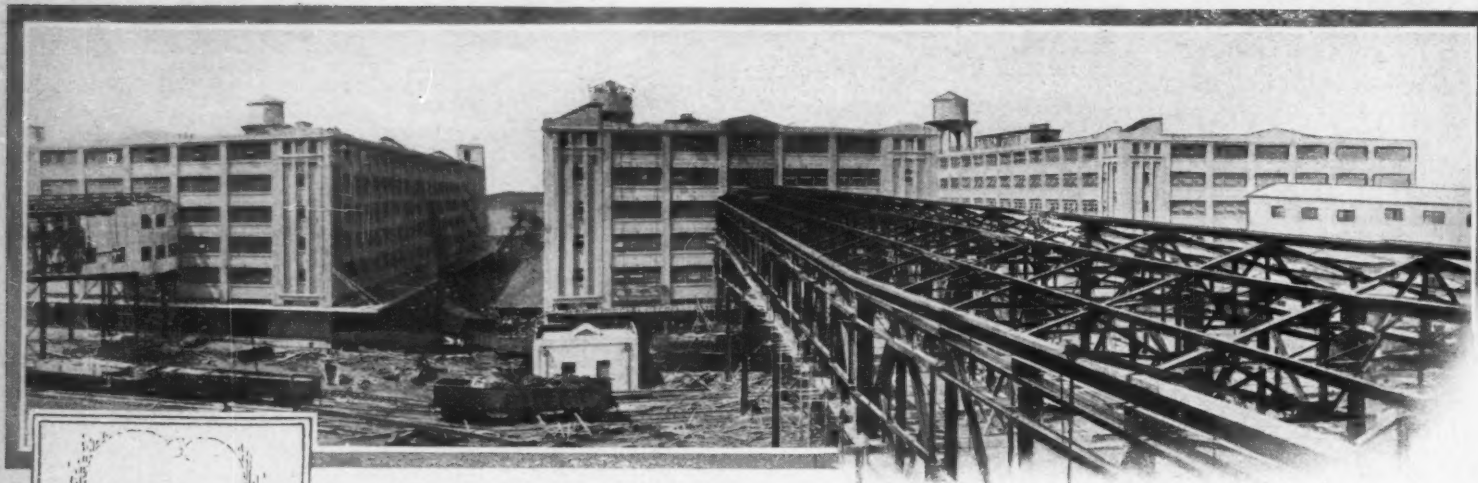
EASTERN OFFICES AT PITTSBURGH AND WASHINGTON

The makers of Curtis Woodwork guarantee complete satisfaction to its users "We're not satisfied unless you are"

1866
CURTIS
WOODWORK

"The Permanent Furniture for Your Home"

1866
CURTIS



Fuller-Built Landmarks

In The Service of Industry

include a wide variety of structures for many concerns whose names are prominent in the industrial life of the country. The brief details given below of the recently completed warehouses and wharves at New Orleans for the U. S. Army, indicate the facilities of the Company for handling certain phases of this industrial work:

Brief Specifications

3 reinforced concrete warehouse units, 600 ft. long, 140 ft. wide, 6 stories high.	Bbls. cement - - - - - 162,000
2-story steel and pile wharf and wharf- house, 2000 ft. long, 140 ft. wide.	Total number of piles driven - 52,700
3 structural steel bridges connecting wharf with warehouse units.	Feet of timber - - - - - 16,000,000
Cubic yards concrete - - - 108,000	Lbs. of structural steel - 9,000,000
Tons reinforcing steel - - - 7,000	Total car storage—743 cars.
	Total land area—48 acres.
	Total floor space—48 acres.
	*Total capacity of plant—178,500 tons.

*Equivalent to more than 10 days average movement over all the wharves,
private and State, in the port of New Orleans.

NOTE:—This job was completed just one year after work was commenced. It was the last Army contract of this character let and the first completed. Other industrial work now in progress includes the following:

U. S. Navy Steel Storage Shed, Boston, Mass.
Chicago Union Station, Taylor St. Viaduct, Chicago, Ill.
Chicago Pneumatic Tool Co. Bldg., Cleveland, Ohio
Penn. Railroad Round house, Columbus, Ohio
Wisconsin Telephone Company Bldg., Milwaukee,
Johnston Candy Factory, Milwaukee, Wis.
T. Eaton Company Bldg., Moncton, New Brunswick
Crain Elevator, Port Arthur, Canada

Kipawa Co. Pulp, Paper & Sulphite Plant,
Timiskaming, Canada
Pennsylvania Terminal additions, Steubenville, Ohio
Railroad Tracks, Pennsylvania R. R., Long Island, N. Y.
Car Shop, Pennsylvania Railroad, Terre Haute, Ind.
Housing U. S. Housing Corporation, Washington, D. C.
Republic Iron & Steel Company Bldg., Youngstown, Ohio
12—9600 ton ships, Wilmington, N. C.

Industrial building is an important part of the
George A. Fuller Company's work. Consultation
is invited through any of our various offices.

George A. Fuller Company

New York
Boston
Philadelphia
Montreal
New Orleans

Washington
Baltimore
Pittsburgh
Cleveland

Chicago
Detroit
St. Louis
Kansas City
Buffalo



U.S. Army Supply Base—A. Pearson Hoover Lt. Col. Constructing Quartermaster, Ford, Bacon and Davis—Supervising Engineers

improbable that there is to be any affiliation of the farmers of the country with organized labor. In addition to the resolutions, the Congress adopted a "Declaration of Principles" calling for:

Undivided loyalty to country, first and always, with no conflicting obligations; the protection of its institutions, and the preservation of its traditions.

Adequate production on the farm and in the factory.

Enactment and enforcement of legislation to reduce the spread in prices between producer and consumer to a minimum, with severe punishment for profiteers.

Prompt suppression of industrial disorders, and deportation of all alien agitators and red-flag followers.

The requirement that all able-bodied men work a reasonable number of hours per day or week, at some constructive or useful occupation.

Opposition to strikes other than in emergency, and settlements of industrial strife by arbitration.

Opposition to the unionization of police or other public officials or employees.

Better agriculture, better organized, better informed, better protected against calamitous market changes and unjust discrimination.

A better country to live in, with better homes, better schools, better roads, and free opportunity for the exercise of individual initiative.

Equal opportunities to all classes of citizenry, and all sections and localities.

Industrial Americanization

THE Remington Arms-Union Metallic Cartridge Company is a strong supporter of the Americanization movement in Bridgeport, Conn. It is cooperating with the local committee appointed by the mayor at the joint request of the Manufacturers' Association and the Chamber of Commerce. Classes for immigrants are now being held in seventeen different centers throughout the city, including public schools, factories and churches; forty teachers are engaged in giving instructions in English, American history and civics. Nearly 700 persons, including a number of nationalities, registered on the opening day.

A formal opening was given for the Americanization classes of the Firestone Tire & Rubber Company, Akron, Ohio. Addresses were made and musical numbers given in welcoming the members of the classes to their work.

The United States Aluminum Company, at New Kensington, Pa., has arranged for its foreign-born workmen to attend the public schools of the city at night, where they are taught English and assisted in preparing for their citizenship papers. The company also conducts free motion-picture shows on Americanization subjects.

The American Smelting and Refining Company, at Perth Amboy, N. J., holds English classes twice a week for its employees. At present the classes are conducted by the industrial secretary of the Y. M. C. A., but the company is preparing one of its own men to take over the work. Among the pupils are eight women employees of the plant.

The Morgan & Wright Company, makers of United States tires, at Detroit, have made a complete survey of the citizenship status of their employees. The records are so compiled that it is possible to ascertain at a moment's notice by departments the men who were born in America, those who desire first

papers, those who have first papers and are waiting for second papers, and those who do not care to become citizens, but are going back to the old country. The sociological department assists the men in filling out the blanks for their first papers, takes them to the country building in the company's trucks, and encourages them in every way toward becoming American citizens. During January a school within the plant for non-English-speaking employees will be opened. The school will be free, and the company is considering paying the men part time for attending the classes after work.

Deere & Company, of Moline, Ill., is studying the Americanization problem with a view to starting work along these lines within its plant.

The Warner & Swasey Company, at Cleveland, Ohio, recently started a survey of its plant in the matter of nationalities. It was gratified to find that it had no one in its employ who either did not have his first paper or had declared his intention of becoming a citizen. As a result of the survey, however, the company expects to interview those men whom it believes should go on further in the matter of citizenship and the matter of speaking better English.

At Niagara Falls, N. Y., the Carborundum Company conducts two classes for men in English and Americanization, which are held on company time. In addition to the class for men, they are maintaining a class in English and dressmaking for women. The latter class is held after work hours, but the company furnishes a supper for each member of the class.

The Templar Motors Corporation, of Cleveland, is making an intensive survey of conditions within their plant with a view to determining just what Americanization work is necessary.

The Walter M. Lowney Company, at Boston, claims the distinction of being the first factory in the city of Boston to start an Americanization class. This is the second year of the work. Practically all of its foreign-born employees are Italian. The teachers for the classes are supplied by the Director of Evening Schools of the city of Boston, but the class-rooms are furnished by the Lowney Cooperative Association. About 65 men are divided into four different classes which meet twice weekly, the Lowney company giving one hour per week to the classes from company time with pay, and the men giving the other hour themselves.

At Watertown, Mass., the Hood Rubber Company has about 25 English classes started and is also doing considerable in facilitating Americanization work, as well as giving advanced classes in what might be termed higher Americanization. The teachers are obtained from several communities in which the largest proportion of the company's foreign-speaking employees live. These teachers are under the joint supervision of the Americanization Division of the State Department of Education, the Associated Industries of Massachusetts, and the company's own service department. Classes are held at the end of the work periods on employees' time. The company holds a series of lectures and demonstrations on Americanization work for its foremen and forewomen, in order that they may be familiar and sympathetic with the work, and possibly, in some cases, be desirous of teaching classes themselves.

At the Goodyear Tire & Rubber Company plant, at Akron, the foreman is held as directly responsible for the success of the

Americanization plan in his department, as for supervision of production. He is given to understand that the success of his department industrially depends upon the intelligence of his workmen. To realize these advantages, an elaborate school program is arranged for the alien. This work in the Goodyear plant is by no means confined to factory schools. It embraces a department where the employee may secure expert legal advice without cost. A housing bureau provides for proper and suitable living conditions. A complaint department is available for ironing out misunderstandings. A factory publication, direct work with the men, and advice on investments are part of the work.

As the first step in a thorough Americanization program, Armour & Company has inaugurated English classes at its various plants throughout the country. These are now well under way and proving successful. The class at the Chicago plant is, of course, the largest one, as here over fifty-two different nationalities are included among the workers.

Thomas A. Edison, Inc., at Orange, N. J., takes the ground that Americanization is something more than teaching English and civics and securing naturalization papers. This company believes the foreigner will judge the way things are done in America by the treatment he receives from his employer. Hence the various activities of this company to assist its men in every possible way.

Film Men Organize

IN quite a number of the larger cities of the country, the managers of local motion picture exchanges have organized as groups and in many cases are affiliated with the local Chamber of Commerce.

Recently these men held a convention in New York for the purpose of forming a national organization which was attended by representatives from almost all parts of the country. The new organization has taken membership in the National Association of the Motion Picture Industry as a distinct entity.

The purpose of the National Federation is to organize, unify and coordinate the various Boards of Motion Picture Exchange Managers now existing throughout the United States and to lend the combined moral strength of the federation in any endeavor which might be beneficial to state or federal authorities.

Mr. S. Eckman, Jr., of New York City, has been elected President, and the United States divided into five districts. J. E. Flynn of Detroit, who was a pioneer in the formation of local organizations, has been elected vice-president of the central district, consisting of the territory covered by the Cleveland, Detroit, Cincinnati, Indianapolis and Pittsburgh offices.

Off For Warsaw

OUR first trade commissioner to Poland will be Louis E. Van Norman, former editor of THE NATION'S BUSINESS, whose assignment to Warsaw is announced by the Bureau of Foreign and Domestic Commerce, Department of Commerce. Mr. Van Norman, who has just completed a survey of the situation in Roumania, is the author of "Poland, the Knight Among Nations."



JAMISON HANDY

Expert who will devote to the industrial screen his editorial talents and his experience in motion picture promotion.

THE announcement that Jam Handy, formerly General Manager of the Keeley-Handy Syndicate and recently associated with the Bray Pictures Corporation, will devote his attention to preparing pictures for industrial purposes is proof of the fact that men of the highest ability are now attracted to this rapidly developing field.

Jamison Handy is the son of Major Moses P. Handy, promoter of the Chicago World's Fair, and is a brother of Wm. M. Handy. Jam Handy inherited his father's talent for mass psychology, together with the family taste for newspaper work. At Ann Arbor he acted as college correspondent for the Chicago Tribune and on leaving the university became the protege of Senator Medill McCormick, the publisher of the Tribune, who gave him seven years of intensive training as a newspaper executive. In 1908 he left the Tribune to become a partner of Herbert Kaufman, the essayist and publicity advisor, an association that lasted until Mr. Kaufman returned to his literary and publishing activities. This experience gave Mr. Handy a broad grasp of sales practices and merchandising methods, illuminated by intimate contact with some of our largest corporations, including the International Harvester, United Cigar and National Cash Register companies.

Mr. Handy then continued sales promotion work, gradually specializing in motion pictures, and in 1915 formed with James Keeley, then proprietor of the Chicago Herald, the Keeley-Handy syndicate, a chain of metropolitan newspapers associated for cooperative promotion of theatrical motion picture productions, and their successful activities gave Mr. Handy an excellent knowledge of theatrical motion picture distribution, which has become the great problem in the industrial field. The syndicate worked in close connection with several of the national exchange systems and Mr. Handy's promotion methods set new high records for bookings with Universal, Mutual and Pathe.

Last year Mr. Handy's association with the Bray Pictures Corporation led to close relations with the inventor of the animated drawings in the Bray "Pictographs." Recently he has devoted most of his time to industrial productions, where his talent for making commercial subjects interesting in a unique and gripping way will rapidly develop the great opportunities in this field.

Mr. Handy was for several months a pupil of Harrington Emerson, the efficiency engineer, who trained him in the principles of industrial engineering. His newspaper experience includes various periods acting as editor of the Chicago Tribune Sunday supplements and publisher of the Chicago Herald. During the latter part of the war he was government publicity advisor on Americanization.

Reprinted from

Moving Picture Age

for the

Bray Pictures Corporation

Sales Office: 208 So. La Salle St.
Chicago, Ill.

Eastern Studios
New York City

Western Studios
Chicago

Cornering the Eight-Hour Day

(Concluded from page 27)

to be gained during that leisure. But when their backs are to the wall they always begin talking about production. In such circumstances they invariably insist that industry is not a charitable institution and is not a thing that is carried on by amateurs. It is for the purpose of manufacturing goods, so as to secure a market, or to find buyers. It is ruled, they say, by economic and not by sentimental considerations. The sentimental considerations are dependent wholly upon economic efficiency and prosperity. If you can not find buyers for your goods, your industry collapses and your workers are thrown out of work. So when the labor men get sentimental, the business men become "efficient."

The employers at the conference aren't so poor themselves at pulling out the sentimental stops. When hard pressed they invariably drag out the "one hundred million people on the verge of starvation" and hold them up for the conference to weep over. One gets a bit hardened after a while and before long can listen to an appeal for either the down-trodden masses or the starving hundred millions with as much insouciance as one would exhibit in listening to an argument over the ownership of a dime.

So long as the facts available are so scanty it seems very unlikely that any whole-hearted agreement can be reached. What must come will necessarily be a compromise.

Employers have no fundamental or ineradicable objections to shorter working days provided the same arrangement can be applied to everybody, so as to work no hardship in individual countries. They are generally willing to accept it provided it can be generally applied throughout the world. A good many of them regard it as the saloonkeeper in a wet State regards the approach of the dry wave. They are not sure they like it, but they are generally resigned to it. Putting it in terms of stimulants once more, they are willing to sign the pledge but want a little while to "taper off."

Labor, on the other hand, is undoubtedly willing to wait a while. But wanting and having are two different things. If labor can be guaranteed that its working days in the industries where it already possesses the eight-hour day will not be lengthened in the meantime, they will undoubtedly consent to the gradual introduction.

And then what? Nine or ten years hence, when no one on the planet except the boss works more than eight hours a day and four on Saturday, what then? May we look forward to another International Conference to consider ways and means for installing the six- or the five-hour day? Maybe so, maybe so. And then again—

Oh, well, life is just one blank thing after another anyway.

Editor's Note: The conclusions reached by the author have been borne out by the subsequent action of the Conference itself which adjourned since this article was written. A draft convention prepared for ratification by the forty-one nations represented provides for an 8-hour day and a 48-hour week, limited in scope, which if ratified will go into effect in some countries as early as July 1, 1921 and as late as July 1, 1924 in others. Commerce and agriculture are excepted for the present. Special exceptions are also permitted in continuous shift industries and in emergencies due to unusual circumstances such as accidents, exceptional pressure of work, etc. Certain countries, such as China, Persia and Siam are exempted for the present. Japan and India are permitted a 57-hour and a 60-hour week respectively, with the understanding that further revision will be made by a future conference. At the present time Japanese laws permit a 78-hour week.

Where Credit is Made

The National Bank of Commerce in New York is a manufacturer whose product is credit.

Knowledge is the raw material of which credit is made — knowledge of men and markets, commerce and finance, drawn from original sources, tested and woven into a fabric of mutual confidence which is national credit.

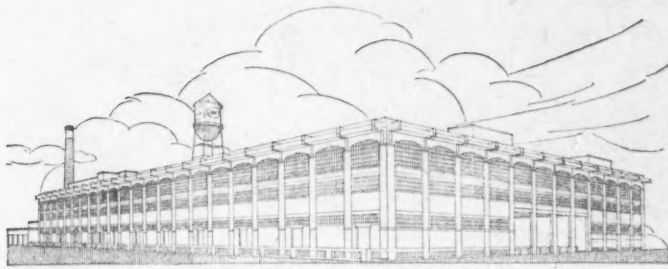
The vast resources of the National Bank of Commerce in New York insure a credit production which is adequate to the needs of expanding business.



National Bank of Commerce in New York

Capital, Surplus and Undivided Profits
Over Fifty Million Dollars





AMERICAN CAN CO., FACTORY, MAYWOOD, ILL.

INVESTIGATE BEFORE YOU INVEST

No matter how efficient in its own business, no organization can dispense with competent advice on its plant extensions, any more than a lawyer can dispense with a doctor when he is sick or a doctor dispense with a lawyer when he sues a client for his bill.

And pursuing the simile further, merely hiring any organization of engineers or contractors that makes plausible claims, without scrutinizing its credentials of ability, is as dangerous as hiring a lawyer or a doctor without regard to his record.

The Thompson-Starrett Company is not only competent to undertake your plant extensions, but its advice is constantly solicited and followed in the investigative stages of construction problems, by organizations which want specialized advice before they commit themselves to a contract.

Our Advice is as Good as Our Service

THOMPSON-STARRETT COMPANY
INDUSTRIAL CONSTRUCTION

CHICAGO

NEW YORK

PITTSBURGH



Employers Must Think and Act!

Hearts are trumps in the labor game. Discipline may be necessary at times, but Production is best where sentiment runs amuck.

Every worker has a heart—and It Can Be Reached! We human beings do not *hold back unless there's some* kind of cause. "Men do more for honor than for gold."

Praise and promotion, hearts and feelings, thoughts and acts, are the vital factors of the labor problem—production accompanies the constructive thought. The more correct the thought, the higher and greater the quality and quantity of productivity.

Seeds sprout best where decay is prevalent. Thoughts and acts are no different—place the right thought, make the correct expression in the right place at the right time, and the worker learns a better and easier way to *do things*. The reaction of unrest may be made profitable.

"Labor and Capital, prosperous and happy" must be a thought forced into the hearts of humanity; and whether he be Pole or Greek, whether Yellow or White, Employer or Employee, the *feeling must be created in each to do better and more*.

First, you've got to want to! "Team work pays!"

Sherman Service makes *the Worker think right, the Employer think right, and then they both do right*. The Result is Constant, Happy Relationship. *Production becomes what it should be*. Would you not like to know Who We Are, What We Do, and How We Do It? Write us on your letter-head. Or, better still, let us tell you.

(Nearly one hundred Sherman officials, specialists in handling the human element in industry, men and women who have gained their knowledge by practical experience, are directing the activities of hundreds of Sherman representatives located broadcast throughout the United States and Canada. Each Sherman client receives the benefit of our combined knowledge.)

SHERMAN SERVICE INC.

"Industrial Relationship"

New York	Chicago	Philadelphia	Boston
2 Rector Street	208 So. La Salle	1211 Chestnut Street	10 State Street
St. Louis	Cleveland	New Haven	Toronto
314 No. Broadway	Park Building	42 Church Street	10 Adelaide St., East
Providence		Detroit	
10 Weybosset Street		73 State Street	



The Legislative Balance Sheet

Here are the conditions and prospects of measures affecting business that are before the present Congress

ON DECEMBER 1, when Congress entered upon its first regular session—the “long” session of the Sixty-sixth Congress—it had enough legislative work ready to its hand to occupy it well into next summer. For the moment the treaty with Germany was allowed to remain where it was on November 19—with a motion to ratify with stated reservations lost, by a vote of 39 to 55, reconsidered, and finally lost again, and a motion to ratify without reservations lost and a motion to reconsider laid on the table. Those two motions are apparently definitely at an end, as it would take unanimous consent to reopen either.

By a majority vote the Senate took the position that it had acted finally, and that there would be further consideration only if the President withdrew the treaty and re-submitted it. A concurrent resolution to declare simply an end of the war with Germany was introduced on December 19, and referred to the Senate Committee on Foreign Relations.

Sooner or later there will be other treaties to come before the Senate, such as the treaty with France, the treaty with Austria, and the treaty with Bulgaria, and the treaty with Colombia is always in the background.

Expenses of Government

The appropriations for the year which began on July 1, are \$6,030,000,000, and may have to be increased before the twelve months are out. For the year to begin with next July the estimates of needs submitted to Congress on December 1 aggregated \$4,865,000,000. Scanning these estimates, hearing officials explain their requirements, and passing the twelve or fourteen appropriation bills that will make funds available will occupy a good share of the time of Congress during the next four or five months.

By July 1, 1920, the Treasury expects a deficit of \$3,155,000,000. Starting with that minus quantity, it looks for revenues in the following twelve months of \$5,620,000,000, and hopes to get to July 1, 1922, with the deficit reduced to about \$1,509,000,000.

National Budget

The scale of expenditures to which the federal government is committed makes it especially appropriate for Congress to inaugurate budgetary procedure. In July both Houses appointed special committees to report plans for a budget system. The House committee reported the Good bill, and a resolution to change the procedure of the House. The Good bill, which would lodge the duties of budget making with the President and give him the assistance of a special bureau, passed the House in October and has since been before the Senate's special budget committee. The resolution, which would concentrate authority over appropriations in the House and thus have an important part in budgetary procedure, is in abeyance, on the calendar.

The chairman of the Senate committee has introduced bills which place on the Secretary of the Treasury, aided by a special bureau, the principal duty in budget making. Con-

sequently, the Senate committee has before it two competitive proposals—one that the President have the responsibility and the other that the Secretary of the Treasury perform the chief duties—and is opening hearings on December 15.

Taxation

That there will be changes in taxation is pretty certain. The present session of Congress may get to the point of considering excess profits and income taxes. Regarding these levies the Secretary of the Treasury makes some recommendations.

Any appreciable reduction in revenues from taxation, he declares, is not to be thought of at a time when current expenses exceeded current receipts, but he wants the taxes levied with a minimum of inconvenience and injustice. The excess profits tax he calls objectionable. In his opinion it encourages wasteful expenditures, puts a premium on overcapitalization and a penalty on brains, energy and enterprise, confirms old ventures in their monopolies, and is a material factor in the increased cost of living.

The revenue lost through elimination of the excess-profits tax the Secretary would make up by increasing the normal income tax and the lower brackets of the surtax on incomes. The rates in the higher brackets, he says, have passed the point of productivity and tend to cause withdrawal of capital from the development of new enterprises and place it at the disposal of State and municipal governments on terms that stimulate them to wasteful and non-productive expenditure.

Tax-Free Bonds

In this connection he wants the federal law amended, so that a man, for example, who receives an income of \$500,000 from State and municipal bonds and \$500,000 from ordinary sources will pay federal income tax on the latter \$500,000 at the surtaxes applicable on this amount as the upper half of an income of \$1,000,000. At present, he pays at the rates applicable to \$500,000. In other words, the Secretary does not want a taxpayer who invests in the bonds of States and municipalities both to obtain exemption on that part of his income and to reduce the surtaxes on the balance.

Our Currency

The price to which silver has risen—until a silver dollar is worth more as metal than as a coin—has now put us into the long list of countries that have difficulty in making change. With us the trouble comes with the dollar and two-dollar bills, which we used to have in the form of silver certificates. Two years ago there were in the hands of the public \$475,000,000 in silver certificates; on December 1 there were \$156,000,000. For \$256,000,000 of the difference federal reserve bank notes have been issued, that the silver might be shipped to the Far East during the war.

The method of releasing one and two-dollar bills to the public is mysterious, to the uninitiated. It is to be done by an act of Congress declaring gold certificates legal tender. Thereupon, the banks are expected

to cease holding United States legal tender notes, substituting gold certificates, and return the notes to the Treasury, which will replace them with one and two-dollar notes it has already printed.

Special Tariff Bills

The general hearings on the tariff, which were promised last summer, did not materialize, and the course to be followed this winter had not been announced on December 1. Five acts relating to special subjects were passed by the House, however, and are now before the Senate Committee on Finance. These bills deal with dyes, buttons, optical glass, scientific instruments and the like, tungsten ores, magnesite, and zinc ores. Senate subcommittees have now begun hearings on the bills relating to dyes and magnesite.

Anti-Dumping Bill

On December 5 the chairman of the House Committee on Ways and Means introduced a bill which in many ways is like the Canadian law against “dumping.” This bill would levy a special import tax upon any article when the sales price to the United States purchaser from abroad is less than the “foreign home value,” defined as the price obtained for the article when freely offered in the markets of the country of exportation. The special duty is equal to the difference. The bill introduced on December 5 was a revision of an earlier bill which the House Committee has earlier considered favorably; consequently, the committee at once reported the bill and the House passed it on December 9.

Federal Finance Corporations

The Edge bill, which will authorize creation of federal corporations to engage in international banking and financial operations, is described elsewhere in this issue of THE NATION'S BUSINESS. Having passed both Houses with differences in some provisions, it has been placed in final form by a conference committee and in this form has passed the House. It awaits action by the Senate before going to the President. In the Senate there may still be urged such objections as failure to impose upon stockholders the double liability of stockholders in national banks.

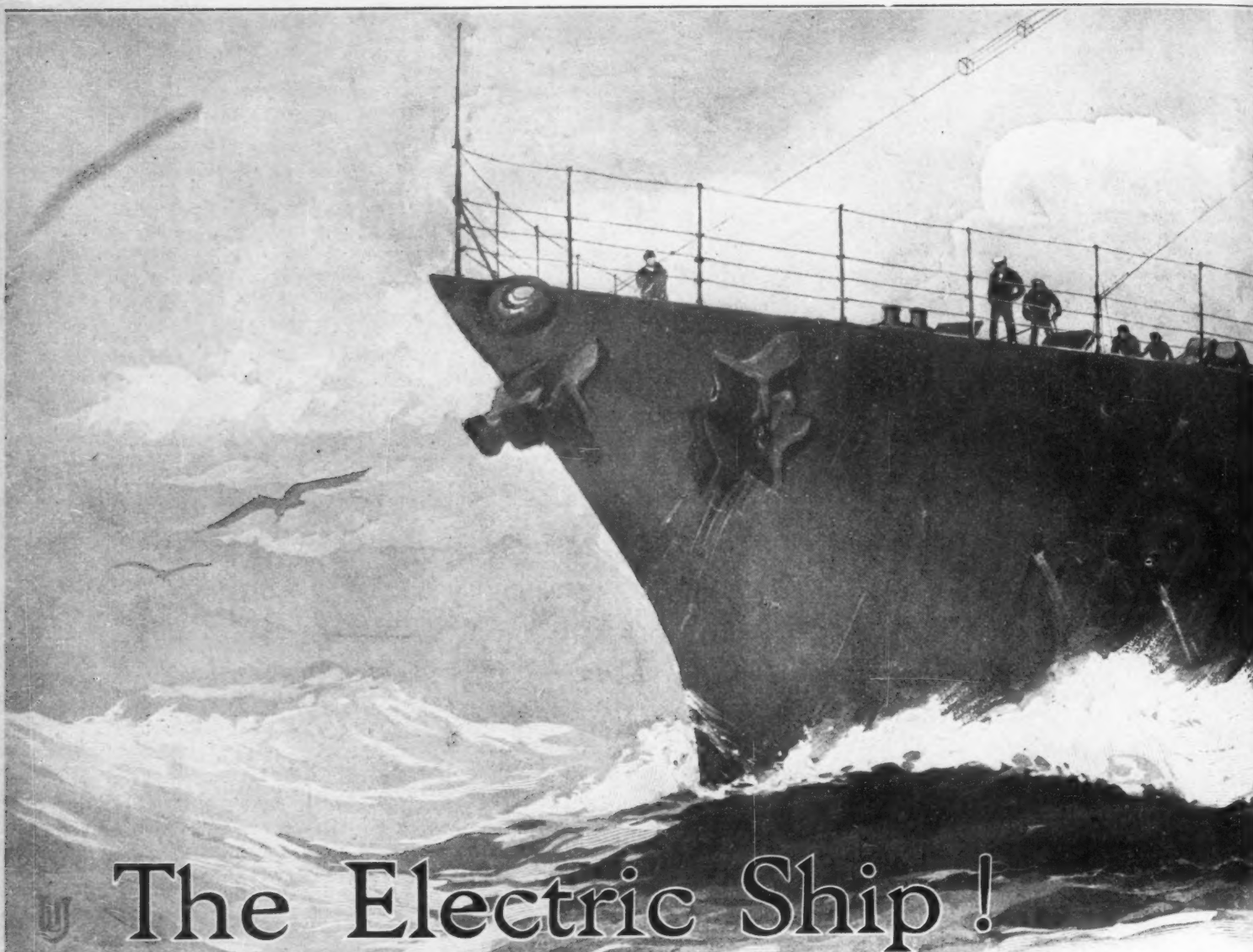
Railroad Legislation

In anticipation of the railroads under federal control being returned to their owners on January 1, efforts are being made in the Senate to pass the Cummins bill before the holidays. There will then be a conference between representatives of the House and Senate to reach compromise between the Cummins bill and the Esch bill, which has already passed the House. The two bills are compared elsewhere in this number of THE NATION'S BUSINESS.

Waterpowers, Coal and Oil

The shortage in coal has served to give prominence to two bills which have already made considerable progress. The bill which

(Concluded on page 66)



The Electric Ship!



ELECTRIC drive for great ships became a fact with the successful trials of the New Mexico, flagship of the Pacific Fleet, the first battleship to be propelled by electricity.

"This engineering feat," says Secretary Daniels, "holds a peculiar interest to the people of the nation, especially when they realize that in this achievement the American Navy stands pre-eminent among the nations of the world. It marks an epoch in naval progress." It is another great advance in the mastery of the sea.

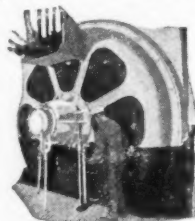
Ten years ago electric propulsion for vessels was being discussed by eminent engineers. But it remained for W. L. R. Emmet, consulting engineer of the General Electric Company, in co-operation with the Bureau of Steam Engineering, U. S. Navy, to apply it to large ships.

Five years ago electric drive was installed on the collier Jupiter, while one of her sister ships was equipped with geared steam turbine drive and another

with direct-connected reciprocating engines. The results proved the unquestionable superiority of electric drive.

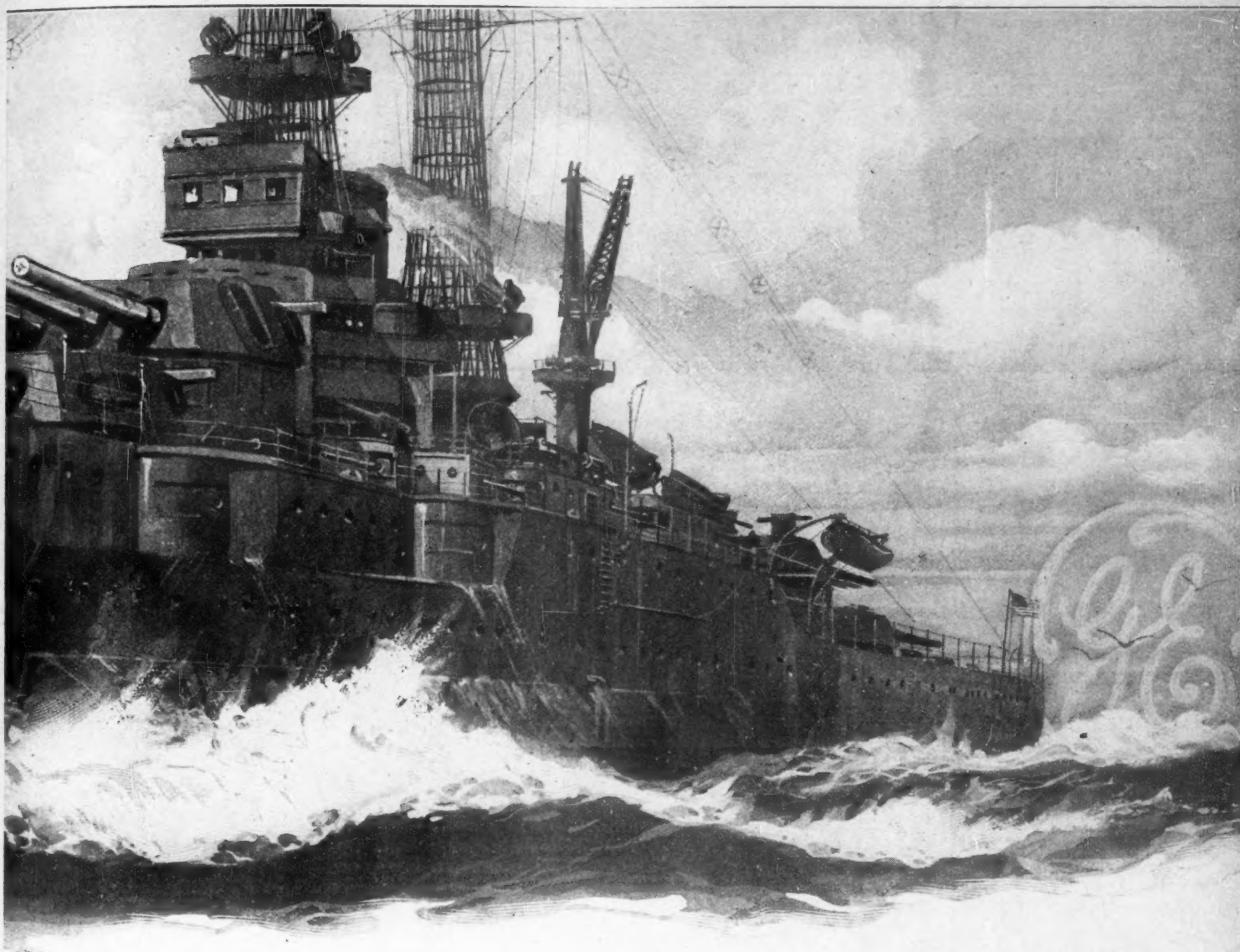
And so electric drive was adopted for the super-dreadnaught New Mexico,

One of the four G-E 7,000 horsepower electric motors—each on the end of a propeller shaft. They drive the New Mexico up to 21 knots, and can be reversed to full speed astern in thirty seconds.



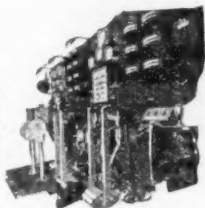
with 32,000 tons displacement and a speed of 21 knots. Steam from her oil-burning boilers drives two Curtis turbo-generators, which generate electric current and feed it through a central control to four 7,000 horsepower motors, each coupled to a propeller. Two thousand additional horsepower is generated for lighting, steering, turret machinery, ventilation, winches, windlasses, cranes, radio, telephony, searchlights, laundry, refrigeration, baking, machine shop—making the New Mexico an electric ship indeed!

GENERAL



As a result of the performance of the Jupiter and the New Mexico the United States Navy has adopted electric drive for all its capital ships now under construction or which have been authorized.

The operator of this control board—in the center of the ship—controls, through a few levers, the speed and power of the turbo-generators and propelling motors, in immediate response to telegraphic orders from the bridge.



Its success in the Navy forecasts the rapid adoption of electric drive for merchant ships. In the case of any large ship now operating with reciprocating engines on long voyages, electric propulsion, if substituted, would afford enough improvement to pay for itself in three years.

Admiral Benson, until recently Chief of Naval Operations, says, "... as soon as the merits of this system become known commercially, electric propulsion will prove its practical value in the Merchant Marine just as thoroughly as it has to

the Navy." He states that he regards "... electricity as the most economical motive power, from every viewpoint, so far developed for large units."

The chief advantages of electric drive are:

1. **Economy**—Fuel economy is not only apparent in the operation of electrically propelled ships, but decreased fuel storage room makes way for valuable cargo space.
2. **Reliability**—Electric propelling machinery has no motion other than simple rotation. Its simplicity in transmitting power from turbine to propeller eliminates

the trouble caused by large reciprocating parts or multiplicity of reduction gears.

3. **Flexibility of Installation**—Electric motors may be placed in the stern, instead of amidships, greatly reducing the length of propeller shafts and shaft alleys. The

turbines can be near the boilers in compact quarters, doing away with many feet of steam piping, and adding valuable space. The power is transmitted the electric way—through small cables. The control can be in any convenient place, even on the bridge.

4. **Safety**—Electric drive gives vastly greater safety than the old types, because each unit can be isolated in its own water-tight compartment. In collision or other accident the throwing of a switch disconnects a damaged motor or shaft, and in the case of more than one propeller, the power is transmitted to the remaining propellers.

The building of electric propulsion machinery for ships of the Navy and Merchant Marine is but one of the many activities of the General Electric Company in its service to the Government, to transportation, to industries, to science, to cities and to the home.

An illustrated booklet describing the New Mexico, entitled "The Electric Ship," will be sent upon request. Address General Electric Company, Desk 88, Schenectady, New York.




ELECTRIC




Williams' Superior Drop-Forgings

OF as great importance to the manufacturer as the responsibility of his bank or the soundness of his business policy, is the absolute dependability of the parts that enter into the construction of his product. The breaking of a vital unit such as an axle of a motor car, the crankshaft of an engine, or an important member of a machine, may carry with it consequences that will deal a staggering blow to his jealously guarded reputation.

Realizing that Drop-Forgings are frequently called upon to bear tremendous strains far beyond their ordinary workingload, it has been our constant study, for nearly half a century, to make only such forgings as will adequately meet every demand upon them.

These forgings, minutely inspected and rigidly tested, are marked with our . That mark is our guarantee that the forging which bears it is as nearly perfect as human ingenuity can make it—that it will carry the load it was built for, with ample strength in reserve.

If you are in need of Special Drop Forgings of the  sort, we shall be glad to have you submit details to us. Booklets describing our stock lines of Superior Drop-Forged Wrenches, Tool Holders, Clamps, Lathe Dogs, etc., etc.—standard the world over,—will be forwarded on request.

J. H. Williams & Co.

"The Drop-Forging People"

24 So. Clinton St.
Chicago, Ill.

24 Vulcan St.
Buffalo, N. Y.

24 Richards St.
Brooklyn, N. Y.

Legislative Balance Sheet

(Concluded from page 63)

would provide for mining coal, oil, gas, phosphate and sodium on the public lands of the West, under a leasing system, has passed both Houses and is before conferees to have the differences adjusted. A real attempt will apparently be made to get the conferees to an early agreement.

The waterpower bill is the second measure. It has passed the House, and after undergoing changes in committee is on the Senate calendar. It would seem to have no chance for consideration until the Senate has passed the railroad bill.

Merchant Ships

Builders of wooden vessels for the Shipping Board are seeking legislation which would specifically authorize the Board to settle their equitable claims, especially those arising out of cancellations and curtailment after the armistice was signed. Hearings before the Senate Commerce Committee are to begin on January 8.

The whole program the government should follow respecting the vessels the Shipping Board owns and the development of an American merchant marine will be discussed at hearings before the Senate Committee on Commerce beginning on January 12.

Legislation respecting mortgages on vessel property, advanced to aid in enlarging the possibilities of financing American shipping companies, is being framed in the House.

Other Legislation

A mere list of other important subjects of legislation which are now pending is impressive. Some of the bills deal with: Reorganization of the Army, Air Service Department, Americanization, Deportation of Aliens, Seditious Acts, Cold Storage of Food Products, Weights and Measures for Wheat-Mill and Corn-Mill Products, Amendments to Farm Loan Act, Panama Canal Tolls, Public Roads, Vocational Rehabilitation, Radio Stations.

Mr. Hines Rises to Reply

(Continued from page 20)

"The reason is that in the year or two preceding Federal control of the railroads the normal addition to cars and other transportation facilities was not made because prices were very high, labor was scarce, and financing on the part of the railroad companies was unusually difficult.

"Federal control began with a railroad plant that was not as large as it ought to have been to handle the business. During the first year of Federal control there was a severe limitation as to the amount of material that could be taken from other war purposes to use for providing additional railroad facilities. After the most careful study it was decided that the Railroad Administration could not hope to get material for more than a hundred thousand freight cars, and that was the number ordered, and even then we found it was so difficult to get the materials for these cars, in the face of the stupendous demands for material for other

How a small business became the largest of its kind

A true story especially valuable to any man who is, or hopes to be, in business for himself.

SOME years ago, in the corridor of a down-town office building in New York, a very little business was started. One might suppose that it would always have remained a little business; for it dealt in a very small commodity—theatre tickets.

Today that business, in addition to its down-town quarters, has a large establishment on Broadway near Forty-third Street and has its branches in a half dozen New York hotels. Its annual turnover runs into the millions. "McBride's" has become a national institution patronized by thousands of successful men and women in all parts of the land.

"The average man could double his success"

WHAT was it that happened to the "nice little business" to cause it to become the largest business of its kind?

John McBride, one of the three men who have made it, answers that question this way:

"My father's sound judgment, combined with my brother's work and my own, would have made us successful under almost any circumstances.

"But the Alexander Hamilton Institute's Modern Business Course and Service came to us just at the right time. It taught us to think in large terms; it gave us increased self-confidence. We were no longer satisfied to have a nice little business; we determined to have the largest business of its kind in the world."

Only successful men and women deal with the McBrides; those who are glad to pay 50 cents additional on each theatre ticket for the sake of service and convenience. The lead-

ers of finance and industry throughout the country are their customers.

"I have studied these successful men," Mr. McBride says, "and the quality they have which other men lack is simply this—complete faith in themselves. That faith is founded on the knowledge that they are masters of business; that they can deal with any crisis when it arises and can reach out and grasp any opportunity when it occurs.

"I believe the average man could double his faith in himself in a few months if he would make himself master of the fundamentals of business through such a training as the Alexander Hamilton Institute can give you."

No business is different

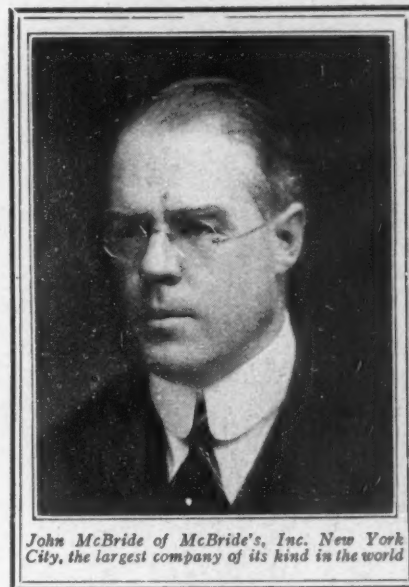
YOU say that the McBride business is "different." Mr. McBride does not think so. He found that he needed to know credits, and merchandising, office management, corporation finance, and investment, salesmanship and advertising—the very same business fundamentals that apply in every office and factory in the land.

Fundamentally his business is no different than that of any other business. That is why he has profited by this Course and Service just as many men have in every line of business.

More than 110,000 men representing every kind and department of business have tested the practical value of this training. They have proved that training breeds self-confidence, and self-confidence means business progress and increased earning power.

Will you be content with small success?

TODAY you may decide for yourself whether you will be content with merely an average success; or whether you will avail yourself of a training that fits men for executive positions in big business, and for making the most of their opportunities in a business of their own.



John McBride of McBride's, Inc., New York City, the largest company of its kind in the world

But this is a fact worth remembering. Every man pays for a business training whether he receives its benefits or not. He pays in the difference between small success and large; in opportunities that pass him by because he has not the knowledge and self-confidence to reach out and grasp them.

All men pay; a few benefit. You have the opportunity to be one of the few.

Send for "Forging Ahead in Business"

THE Alexander Hamilton Institute's Modern Business Course and Service, which helped John McBride to increase his income, is open to you also.

For men who really care about their future the Institute publishes a 116-page book entitled "Forging Ahead in Business." Would you today like to begin to acquire that training which gives a man confidence to seize his opportunity when it comes? Then there is a copy for you—without obligation. Send now.

Alexander Hamilton Institute
251 Astor Place, New York City

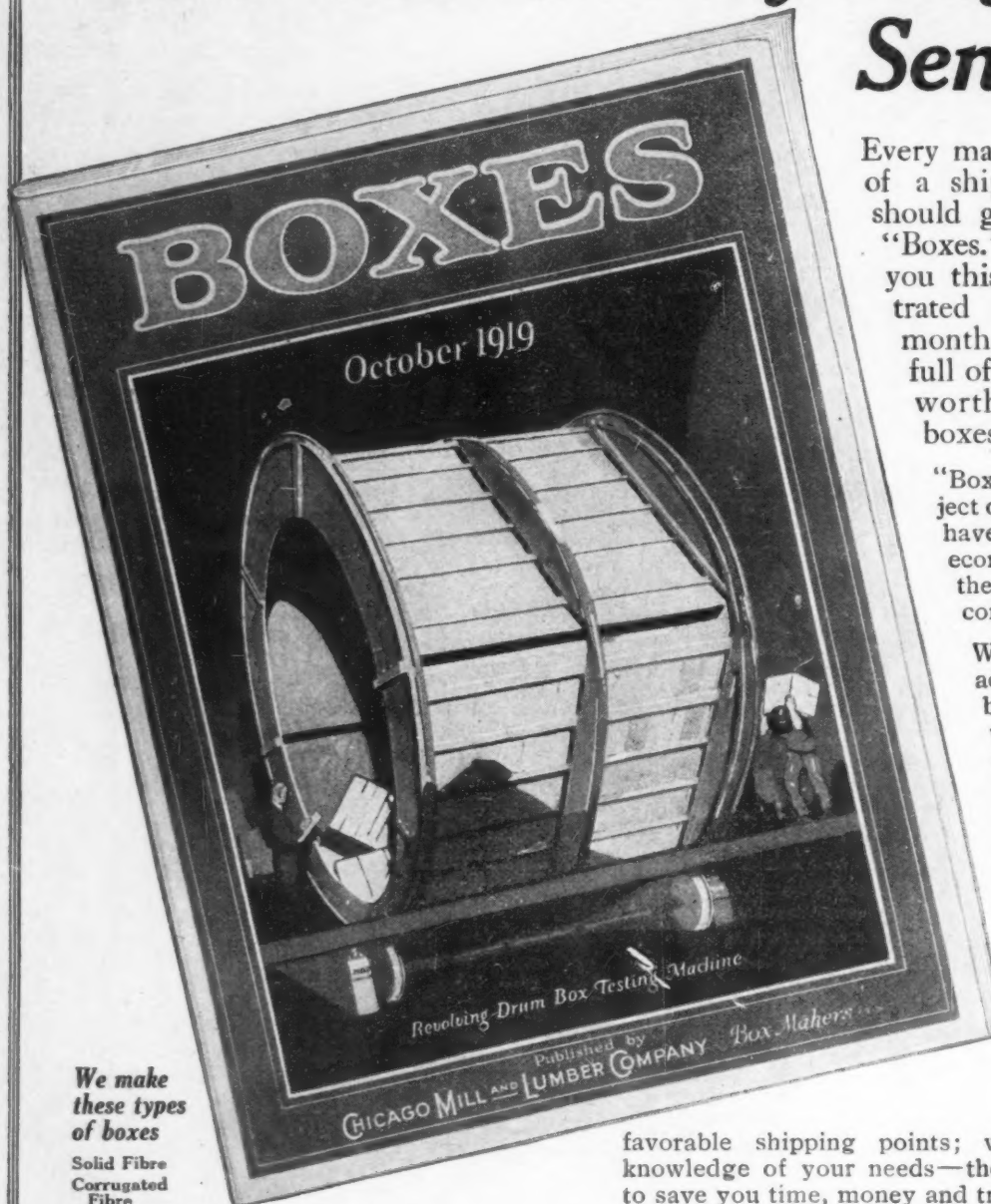
Send me "Forging Ahead in Business."

Name.....
Print Here

Business Address.....

Business Position.....

Our New Monthly Magazine Sent Free



**We make
these types
of boxes**

Solid Fibre
Corrugated
Fibre
Wire Bound
Hinge Corner
Wooden (made
up or knocked
down)

Every manufacturer or head of a shipping department should get our magazine, "Boxes." We will send you this attractively illustrated publication every month free. It is packed full of fundamental facts worth knowing about boxes.

"Boxes" handles the subject of shipping boxes that have proved to be most economical and safest for the lightest or heaviest commodities.

We offer you unbiased advice on your shipping box problem because we build all types. We design boxes for various products that are difficult to pack. In our research laboratory we test box-construction to achieve the greatest strength and stability.

Our own logging camps, sawmills and box factories; distribution through

favorable shipping points; wide experience and knowledge of your needs—these things enable us to save you time, money and trouble.

Fill out the coupon below and we will mail "Boxes" to you monthly.

CHICAGO MILL AND LUMBER COMPANY BOX MAKERS

2067 Conway Bldg.

111 W. Washington St., Chicago, Ill.

Chicago Mill and Lumber Co., 2067 Conway Bldg., 111 W. Washington St., Chicago, Ill.

Gentlemen: Please send me free of charge your monthly publication, "Boxes."

Name _____ Firm Name _____

Street Address _____ City _____

Quantity of boxes used annually _____ Products packed _____

Tycos

Temperature & Pressure Instruments

TYCOS temperature and pressure indicating, recording and controlling instruments have helped place more than a hundred different industries on a more efficient, economical basis.

Their use has pointed the way to increased output, lower operating costs and all around better operating efficiency. For Tycos instruments are dependable—you can rely upon them to present an unbroken record of facts.

Are you familiar with the great variety of instruments we make? There's a Tycos or Taylor Temperature Instrument for every industrial need. Below we list a few. Complete information on any instrument or type of instrument mailed promptly on request. Or, if you have a particular problem let us know. The experience of many years of study of industrial temperature problems is at your service.

Increased efficiency and economy in your plant may result from a knowledge of just what instrument you need and where to get it.

Tycos Recording and Index Thermometers for all Industrial and Laboratory Applications

Electric Contact Thermometers.
Temperature, Pressure and Time
Regulators.
Mercury Column Vacuum, Pres-
sure and U Gauges.
Tycos Base Metal, Rare Metal and
Radiation Pyrometers (Indi-
cating and Recording), Fery
Radiation Pyrometers.
Hygrometers, Hydrometers.
Mineral Oil Testing Instruments.
Laboratory Engraved Stem Ther-
mometers.
Coal Oil Testing Instruments.
Aneroid and Mercurial Barometers.
Recording Barometers.
Pocket Compasses.
Surveying Compasses, Rain Gauges.
Anemometers and Air Motors.
Thermographs, Hand Levels.
Aviation Barometers and Incl-
inometers.
Altitude Barometers.
Tycos Sphygmomanometers.
Thermometers of all kinds for
home, hospital and general use.

Taylor Instrument Companies

Rochester, N. Y.

There's a Tycos or Taylor Tempera-
ture Instrument for Every Purpose



war purposes, that very few of them could be constructed in the year 1918.

"The limitations that existed prevented our ordering additional refrigerator cars or express cars, or other types of cars which it was desirable to have. When the year 1919 began we were then confronted with a new difficulty in the way of adding to the facilities, and that was that Federal control naturally was approaching its end from the time the armistice was signed. The Government was not in a position, with the end of Federal control in sight, to provide new Government funds to acquire additional facilities beyond what had already been provided. More than that, the failure of the appropriation on the 4th of March last, which had been sought by the Railroad Administration to enable it to meet its obligations already incurred, postponed the construction of even the hundred thousand cars that had been ordered, because they could not be paid for, and the equipment companies naturally had to slow down on their production.

The Burden of Uncertainty

THE railroad companies were unwilling to furnish money for new equipment because of uncertainty as to their own future, with the result that the Railroad Administration during the year 1919 has not been in position to provide any facilities, except those which were needed as an emergency measure, unless the railroad companies were willing to furnish the money, in addition to the hundred thousand that were ordered last year. So that the inadequacy of facilities, which were inadequate before the Federal control began, and which have become increasingly inadequate since that time, principally accounts for the fact that the facilities now are not sufficient to handle all of the enormous business offering to the railroads of the country.

"We are in a waiting and uncertain situation with reference to the provision of transportation facilities, and it is a matter of very grave concern to the country. I have no reason to believe that the business will not be heavy again in 1920, when the railroads will be back under private control and when they may find it difficult to pool their facilities and use them as fully as they can be and are used under a unified control. Now, if this period of uncertainty and waiting shall be prolonged there can be no timely planning for facilities to handle next year's business.

"In my judgment if the legislation cannot take definite shape during the month of December, so that the railroads will know where they stand, and can begin making their plans to get the additional facilities they will undoubtedly need to handle the business of next fall, the country will be most disastrously handicapped next fall in having its business moved. So I regard that as perhaps the most compelling reason why the legislation providing for the future of the railroads shall be pushed through with the greatest expedition. Unless plans can be entered on by the new year I do not see how they can be effectively brought to a realization in time to handle the heavy business of the latter part of next summer and the following fall.

"We have diminished the number of bad-order cars by about 45,000, and at the same time we have brought into service some of the new cars which we ordered last year, to the extent of about 40,000; so that the situation with respect to the number of cars available for service is rapidly improving, and yet the demands for service are apparently increasing more rapidly than the cars can be

THE FIRST NATIONAL BANK OF BOSTON

KNOWLEDGE AND EXPERIENCE

The usefulness to you of the knowledge of the experts in our various departments is greatly increased by the accumulated experience of many years, during which we have transacted every form of foreign and domestic financing, and have grown steadily in resources and in efficiency.

Deposits - - - - - \$179,000,000

Resources, over - - \$260,000,000

Branch at
**BUENOS AIRES,
ARGENTINA**

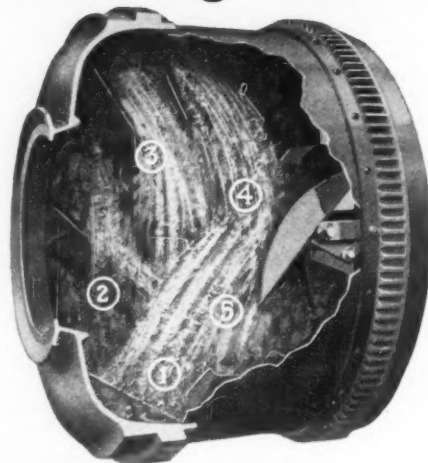
The U.S. Concrete Ship "FAITH"



Dominant Strength Concrete

THE "Faith"—built of the same—**Koehring Mixed** dominant strength concrete as should go into buildings and roads—came back from South America, Havana and New Orleans. Dry-dock examination at New York proved that concrete wins the battle with the sea.

Koehring-mixed qualifies as the dominant strength concrete as the result of official tests of the strength of concrete as mixed by many mixers. By official test Koehring-mixed is far stronger than concrete mixed by other mixers—*sometimes as much as 31% stronger*—the result of the *re-mixing* action found in no concrete mixer but the *Koehring*.



Contractors who
own Koehring
mixers have
proved their
regard for
Quality
Concrete

KOEHRING Concrete Mixers standardize concrete

Every batch of concrete from the Koehring Concrete Mixer is uniform to the last shovelful. No weak spots in Koehring-mixed concrete structures, buildings, pavements or highways. No separation of aggregate according to size. The Koehring *re-mixing* action thoroughly coats every fragment of stone and grain of sand with cement.

The contractor who owns a Koehring Concrete Mixer is equipped to assume responsibility for *dominant* strength concrete.

Write for Van Vleck's book, "Standardized Concrete"—an epitomized review of the most authoritative engineering views on the mixing of concrete.

KOEHRING MACHINE CO., Milwaukee Wisconsin

found for that service. All of which goes back to the condition that there are not enough cars in the country, and that there will not be until we can get a definition of the situation on the basis of which the railroad companies can proceed to buy the additional equipment they need.

"At the outset of the Railroad Administration it was decided to make a check of the practices that obtained in the roundhouses, in the handling of locomotives, and the practices that obtained in handling locomotives in terminals. A most careful study was made of that subject and it was found that there was room for very considerable improvement, and the present indications are that we are saving from fifteen to twenty million dollars a year on account of improved methods of handling the locomotives in the roundhouses and at the terminals.

"Another matter taken up with great activity was that of fuel conservation, to get a better quality of fuel, to see that it was fired with more care, to see that greater efficiency was gotten out of it. The railroad officers and engineers, the firemen and trainmen, and the shopmen throughout the country were interested in that work. Conferences and discussions were held all over the country, and our present belief is that we are saving from twenty to thirty millions of dollars a year on account of the improvements that have been made in our conservation of locomotive fuel without any reference to the conservation of fuel in stationary power plants.

Establishing a Standard

"WE undertook early to adopt standard operating statistics, so as to bring out the various elements of railroad efficiency, and so that we could compare what was done on one railroad with what was done before, and what was done on one railroad with what was done on another railroad. The result is that these statistics, which had never before been developed for the railroads of the country as a whole, have been so developed that many of the railroads now get information about their own operation which they did not have before, and all the railroads now have an opportunity to compare their operations with those of other railroads, which was before impossible. The existence of these statistics has, I believe, greatly stimulated the study of efficient practices on the part of railroad officers throughout the country.

"In the spring I took up the proposition that the railroads were not in a position to supervise their expenditures for maintenance of way and structures and expenditures for equipment to the same extent and with the same success that they supervised their expenditures in the movement of trains. The regional directors took the matter up at my request, and each one held conferences with all his Federal managers. They exchanged the minutes of their meetings. The Federal managers then held conferences with all their subordinates and local committees were formed. There has been a study of ways and means to improve the efficiency of supervision in all maintenance matters.

"There has been a greater study of that phase of railroad administration than ever before in the history of the country—a reaching out to find new units of comparison, so that each officer can see whether his subordinates are using their labor material to



figures that reveal the truth -

ACCURATELY
COMPILED
ON THE
MARCHANT
CALCULATOR

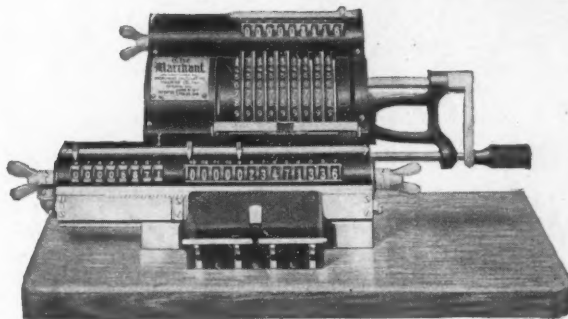


SEND
FOR
BULLETIN S-1.

THE PROS AND CONS OF BIG
BUSINESS ALWAYS REST ON
FIGURES ACCURATELY COMPILED.

REPORTS MUST BE ACCURATE WHEN
THEY ARE PLACED BEFORE THE
BOARD OF DIRECTORS. ACCURATE
REPORTS ARE THE WILL OF BUSINESS.
NEW FIELDS ARE ENTERED AND
DEVELOPED ACCORDING TO STATISTICS
ARRANGED IN ADVANCE.

HAVE YOUR REPORTS ALWAYS
ACCURATE BY COMPILING THEM
ON THE
MARCHANT CALCULATOR
IT MULTIPLIES, SUBTRACTS,
DIVIDES AND ADDS.
FIGURES ANYTHING.



PONY SPECIAL
SIZE 8x12 INCHES · WT. 13 LBS.

Marchant
CALCULATING MACHINE CO.
OAKLAND - CALIF.

OR

237 RAILWAY EXCHANGE BLDG.
CHICAGO - ILL.

SEND ME
CALCULATING
MANUAL FOR
BUSINESS
EXECUTIVES S-1.
MARCHANT CALCULATING MACHINE COMPANY
OAKLAND - CALIF.

The Working World Wants Oil

"Every barrel of oil added to the world's daily production means Power added to the great effort now necessary to re-establish the industries of the world."



We MAKE the machines
that DRILL the wells that
PRODUCE the oil that
the WORLD needs.

Oil Well Supply Co.

Main Offices:
PITTSBURGH, U. S. A.

New York Los Angeles San Francisco
Tampico London

the best advantage, so that one operating division can be compared with another, and so that there may be more efficient supervision of the men themselves. We are getting very important progress in that direction.

"Now, in all these things, we do not claim any credit for novelty. The most progressive railroads had been doing things of this sort for years. But what we do claim is that we did take advantage of a very broad opportunity that was given to us to develop a similar interest on the part of all railroads and to develop a comparative interest as between different railroads.

"My sincere judgment is that in all these matters that I have used for illustrations, as well as in a great many others, the things that have been done by the Railroad Administration, simply on account of the opportunity it had and which the railroads themselves did not have before, are going to bear fruit in increasing measure for a long time to come.

"We have another branch of our work which is of supreme importance—settling with the railroad corporations, after two years of occupation of property worth perhaps sixteen to eighteen billions of dollars, or more, and with perhaps two hundred and twenty-five or two hundred and fifty thousand miles of railroad, with all sorts of incidental properties which have been included. We devised a standard form of contract which the railroad companies and the Government entered into. Those contracts are necessarily complicated, because they deal with one of the most complicated of subject matters. The questions that arise under those contracts are bewildering in number and in their complexity, and it will be a work of supreme importance, involving hundreds of millions and even billions of dollars of Government money, in working out a proper and just final settlement.

The Maintenance Question

"ONE of the most important phases of that subject is the question of the maintenance of the properties. The statute contemplates and the standard contract provides that the properties shall be turned back in the condition in which they were received. But the contract also provides that the Government shall be deemed to have complied with that obligation if it shall have spent upon the properties the same amount that was spent on them during the test period of three years for similar purposes, making due allowances for differences in prices of wages and use of the property. So that one of our greatest problems is to maintain the properties up to what the contract contemplates, and to avoid over-maintenance.

"Broadly speaking, my judgment is that we will be able to show at the end of this year that in the aggregate we have spent on the property what the contract contemplates; that what we may be short in some respects has been made up in other respects. In some instances the railroads may owe the Government, while in others the railroads may have something coming to them from the Government. But the general impression which has been disseminated to a considerable extent, that the railroads have been seriously under-maintained during Federal control, is altogether erroneous, and the balance one way or the other will not be a large figure, considering the enormous amounts involved.

1920

The 24th Year of The "Sperry" Service

BACK in 1896 a few New England merchants gave *24* Green Stamps to a few frugal folk as a discount in appreciation of their patronage.

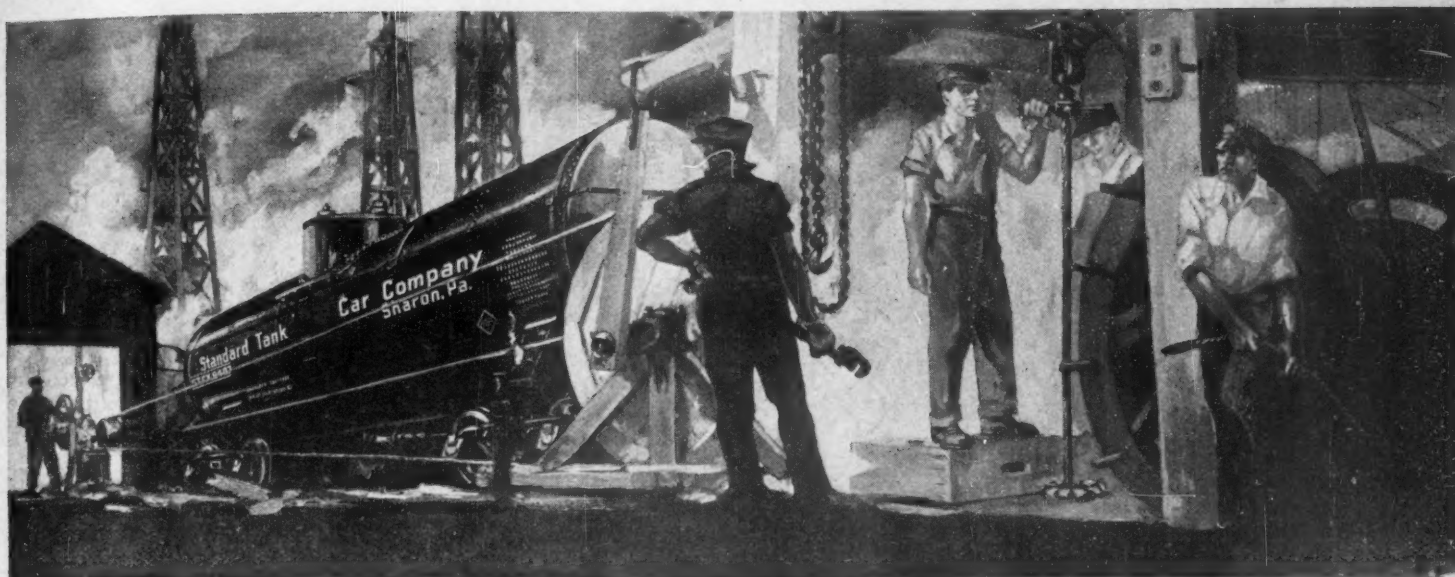
During the past year close to three billion *24* Green Stamps were issued to millions of housewives. This tremendous distribution was made by thousands of merchants covering practically every line of merchandising from Connecticut to California—from Michigan to Mississippi.

In twenty-three years many changes in the selling policies of retail establishments have occurred; consumer buying has followed many channels, this in turn has compelled the dealer to change his course, for the customer's demands always determine the merchant's decision.

Regardless of these facts, the "Sperry" Service has shown a steady and consistent growth during the past twenty-three years. This is conclusive proof that it fills an important role in the tributaries of trade just as it fills a human need in the heart of the home.

We speak of the twenty-three years of the past because of their significance for the future.

The Sperry & Hutchinson Co.
2 West 45th Street New York



Service which brought in the Oil Age

More than 60,000 tank cars are employed in the petroleum industry. The first was invented and introduced in 1871, and from that date tank cars, pipe lines, the drilling method in mining and distillation in refining have composed the four vital elements in the industry.

Tank cars are indispensable as transports for crude petroleum and its various refined products, especially the leading four which have made the Oil Age---gasoline for power, kerosene for illumination, lubricants and fuel oil.

Standard Tank Cars are the standard of these transports.

Tank Cars Built, Repaired and Rebuilt, Sold and Leased
PROMPT DELIVERIES

Write any office for leasing terms and for any other detailed and engineering information

SEND FOR THIS VALUABLE BOOK

"All About Tank Cars," 1919 edition, a complete guide for tank car users. Data includes all the detailed and general information lessees and owners should have for the most economical operation of cars. Mailed postpaid from St. Louis to any address on receipt of price—\$5.00.

Standard Tank Car Company

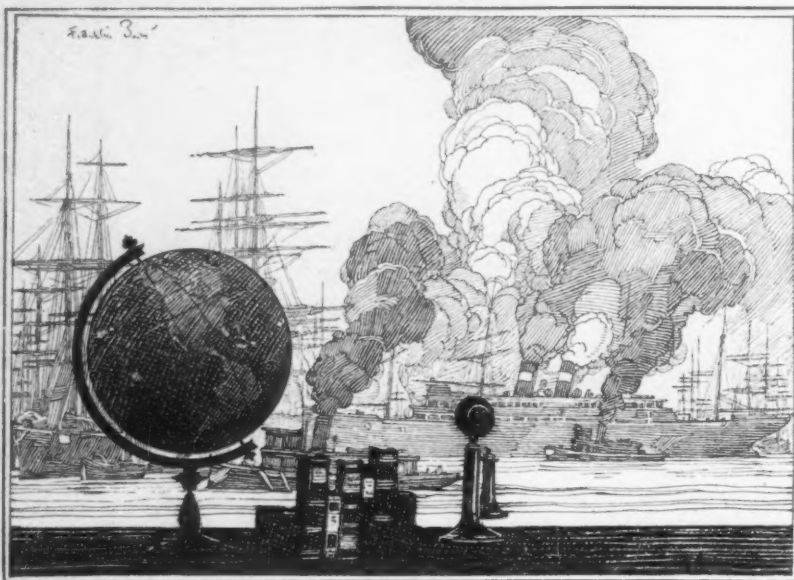
NEW YORK
Woolworth Bldg.

Offices:
ST. LOUIS
Arcade Bldg.

CHICAGO
People's Gas Bldg.

Works: SHARON, PA.

A Tank Car An Hour



A Central Authority on Foreign Trade

NEARLY a score of separate departments, commissions, boards, and bureaus of the Government at Washington, besides a large number of organizations here and abroad, are organized to supply information regarding foreign trade.

Our FOREIGN TRADE BUREAU is in close touch with all these sources of information, and also gathers trade news directly through this Company's own offices abroad and its connections in every important commercial center of the globe.

This Bureau serves our clients and others as a clearing house for information from trustworthy sources in regard to every phase of international trade.

We invite you to consult us freely regarding methods of financing and extending American trade.

Booklets—"How Business with Foreign Countries is Financed" and "Banking Service for Foreign Trade" will be sent on request. Our semi-monthly review, "American Goods and Foreign Markets," will be mailed to those interested.

Guaranty Trust Company of New York

New York London Liverpool Paris Havre Brussels

Capital and Surplus	-	-	-	\$50,000,000
Resources more than	-	-	-	\$800,000,000

The Nation's Public Works

By M. O. Leighton,

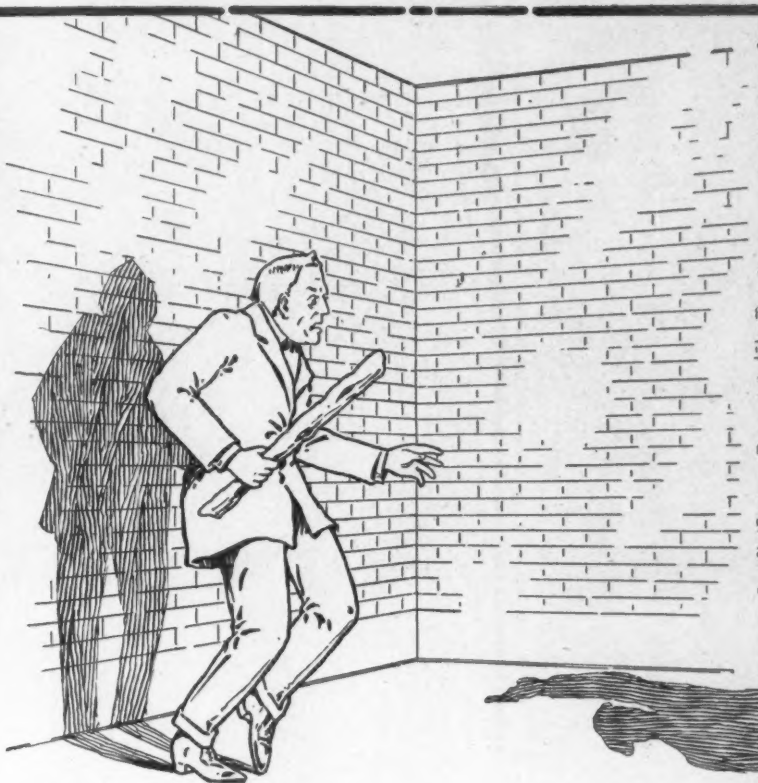
EVERY business man regards good organization as essential to business success. Government organization today violates many common business precepts. To demonstrate this one needs but to compare the Government organization with that of any up-to-date industrial plant. Federal public works are divided among six departments. Things which ought to run along together and dovetail now compete, first for authority, next for appropriations, then for materials, and finally for labor. No board of directors lines them up and makes them pull together. The Chief who presents his plea to Congress most effectively or is most skillful in rallying outside support is the one who gets the authority and the appropriations. Congress cannot be blamed for this, nor can the chiefs of the bureaus. It is an inevitable consequence of the present government organization. To visualize the whole thing let the business man reflect on what would happen to the Pennsylvania Railroad if every section worked independently of every other as to contract specifications, rolling stock, operating schedules, shops, engineers, finances and legal corps.

The Reason For It

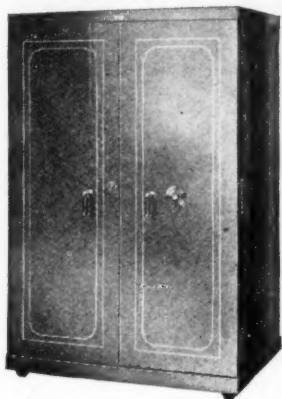
THERE are 17 permanent construction contract agencies with many kinds of contracts and as many standards of interpretation. Seventeen separate bureaus are authorized to do building construction; 12 do hydraulic construction; 12 do highway construction; 16 do surveying or mapping work; 11 do engineering research; 13 have something to do with the rivers of the country. To serve all of this there are 10 separate legal branches and at least 14 main fiscal agencies. There is duplication both in execution of similar work, upkeep and maintenance of organizations "ready to serve."

That is why there is a country-wide movement in progress to establish a department of public works. The need was emphasized by the war. Official Washington was then taught many sound business lessons which, in peace time, would set much of our war expenditure on the right side of the ledger. But the war organization is nearly gone and regular Government business must proceed under the old peace-time machine. A department of public works would help the Government to profit by its war lessons.

The Jones-Reavis bill (S. 2232, H. R. 6649) now pending in Congress, proposes that the name "Department of the Interior" shall be changed to "Department of Public Works"; that such non-engineering bureaus as Pensions, Education and Indian Affairs shall be removed to other departments, and into the new organization shall be transferred: (a) the Construction Division and the river and harbor improvements, from the War Department; (b) the Forest Service and the Bureau of Public Roads, from the Department of Agriculture; (c) the Supervising Architect's Office from the Treasury Department; and (d) the Bureau of Standards and the Coast and Geodetic Survey, from the Department of Commerce. All these, together with the bureaus not transferred from the Interior Department, viz.: Reclamation Service, Geological Survey, Bureau of Mines, Land Office, National Park Service, and Alaskan Railway Commission, would constitute the new Department of Public Works.



With Your Back to the Wall



An investment is the product of judgment; it is the act of laying out money productively; the act of besieging or blockading.

Man will fight for life and honor to the last breath. Back to the wall, bare-fisted, he will battle to ward off threatened destruction. It is the instinct born within all of us—the law of self-preservation.

Your business, inanimate as to instinct, must depend upon your judgment for its preservation. Fire and the elements can destroy it over-night. But if the heart of it lives—your records—the whole can live again.

Be fair to your business. If fire forced it, with its back to the wall, could it live? Invest for its safety. Use good judgment. Get a GF ALLSTEEL SAFE to shield your vital records. It will block fire and destruction and ward off ruin. It *will* save your records. It might well be called the "Investors' Model"—

IT IS AN UNDERWRITERS' MODEL—THAT MEANS CERTIFIED PROTECTION.

THE GENERAL FIREPROOFING CO.



STEEL FILING EQUIPMENT—SAFES
OFFICE FURNITURE—SHELVING
YOUNGSTOWN, OHIO.



NEW YORK - CHICAGO - PHILADELPHIA - UTICA - BUFFALO -
KANSAS-CITY - OMAHA - DALLAS - MINNEAPOLIS - SAN FRANCISCO

The CONTINENTAL and COMMERCIAL BANKS CHICAGO

THE utmost in bank and trust facilities for American manufacturers, merchants, banks and individuals.

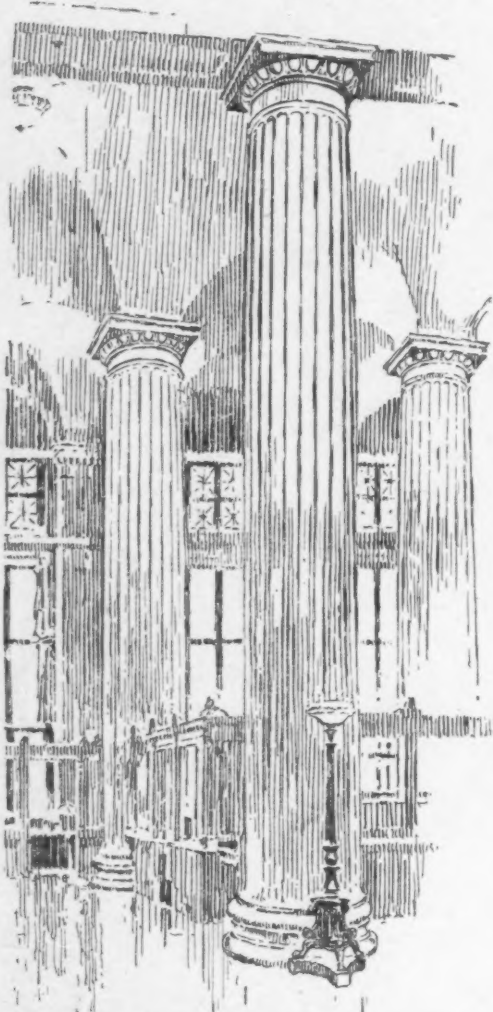
Continental and Commercial
NATIONAL BANK

Continental and Commercial
TRUST & SAVINGS BANK

Continental and Commercial
SECURITIES COMPANY

Continental and Commercial
SAFE DEPOSIT COMPANY

208 South La Salle Street, Chicago



RESOURCES OVER \$500,000,000

What Do the Industries Earn?

PROFITS from mining coal have been stated in the newspapers by the Treasury Department, but a statement about normal profits for all businesses, which was issued about the same time, got little attention.

The normal profits in question are for the pre-war period laid down in the law for taxes on excess profits. The law gave the Commissioner of Internal Revenue a duty to announce the average rates of profits in 1911, 1912, and 1913 for each kind of business, in order that corporations not in business in the pre-war period might use these averages in making their deductions. The Commissioner has now performed this duty.

For most kinds of business the announcement places the average in 1911-1913 as not over 10 per cent. Exactly what the average was for these businesses, consequently, is not shown. This circumstance comes about through the provision of law which says the deduction is not to be less than 10 per cent of invested capital. Businesses for which the average was in excess of 10 per cent are:

Shipbuilding—wooden craft of all kinds..	10.15
Cotton spinning—fine yarns	10.17
Wire cables, fences, springs, nails and spikes	10.24
Envelopes	10.28
Stationary goods, school supplies, office system supplies	10.36
Textile machinery	10.42
Merchants, wholesale	10.45
Cardboard, box materials	10.48
Professional and scientific instruments including dental supplies, optical goods, surgical appliances, photographic materials	10.50
Cleansing and polishing preparations, soaps and washing compounds	10.56
Canning, preserving and evaporating fruits, vegetables, fish, oysters and shrimp	10.67
Leather manufactures	10.69
Special package goods, such as cornstarch, macaroni, etc., breakfast foods and other cereal products	10.79
Food preparations, not elsewhere specified	10.83
Coffee roasting, grinding spices, coffee substitutes	10.87
Boots and shoes	10.94
Druggists preparations, including perfumery, cosmetics, and patent medicines	10.98
Mucilage and paste	11.23
Bread and other bakery products	11.26
Petroleum refining, products and by-products	11.27
Ammunition, explosives and fireworks	11.28
Blackening, bluing, stains and dressings, dyestuffs, coloring materials, inks, paints and varnishes	11.44
Phonographs and all other musical instruments (not including pianos and organs)	11.53
Cotton ginning	11.73
Gypsum mining	11.81
Leather substitutes	11.82
Awnings, tents, tarpaulins, etc.	11.88
Waste—cotton and wool, lintens and oakum	11.89
Cotton duck	11.90
Dyers of furs	11.97
Silk dyeing and finishing	12.10
Washing machines and clothes wringers	12.22
Oleomargarine and other butter and lard substitutes	12.45
Abrasive products, including emery wheels, sand paper, corundum	12.72
Tobacco	12.87
Forestry pursuits, naval stores, charcoal burning and grinding	13.
Type founding, stereotyping, electrotyping	13.17
Railway express companies	13.89
Baking powder, yeast	14.44
Signs and advertising novelties	14.45
Soda fountain apparatus, siphons	15.20
Needles, pins, metal hair pins, pen points	15.54
Asbestos wares, magnesite, material for insulation	16.88
Merchant tailoring, needlework, etc.	17.14
Pipe lines	17.24
Bags and bagging cotton and burlap	17.34
Photographs and art portraits	19.66
Corsets and brassiers	19.90

Of course, these figures are somewhat obsolete, being expressly for the pre-war period. Accordingly, they can scarcely serve as an exact guide for post-war investments.

THE Profiteering Act in England applies, as the Board of Trade may designate, to the classes of articles which are "of a kind in common use by the public" or means for their production and which are not already controlled through government agencies.

Asbestos—

the only rock on which plants thrive

INDUSTRY thrives most where waste is least. And since the development of Asbestos has gone hand in hand with the saving of heat, power and friction, this mineral of wonderful qualities has played an important part in Industrial Conservation.

It is the base of all efficient heat insulation—the necessary *other* 15% in 85% magnesia.

It is, as well, the basic material in the most efficient of friction reducing packings.

As roofings it has qualities of durability and fire-resistance that no other material can approach.

And in innumerable other forms it works miracles of industrial economy that a decade ago would have seemed impossible.

For more than half a century the Johns-Manville Company has steadily grown with the growth of industrial demand for Asbestos.

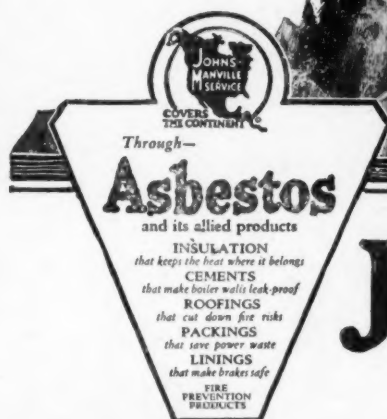
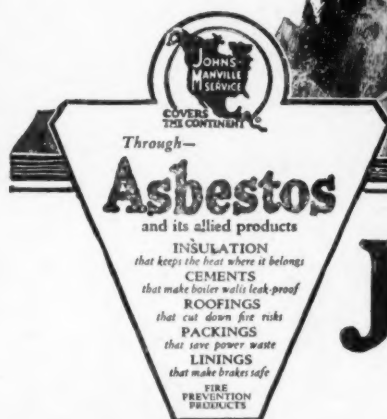
The Johns-Manville asbestos mines are the largest in the world. In the Johns-Manville plants every Asbestos product is produced under super advantages both of experience and equipment. The Johns-Manville sales-organization, operating through branches in all large cities, is an engineering organization as well, carrying a helpful practical Service, that varies to meet each new requirement but always has for its object—Conservation.

H. W. JOHNS-MANVILLE CO.
New York City

10 Factories—Branches in 64 Large Cities

For Canada
The Canadian Johns-Manville Co., Ltd.,
Toronto

Johns-Manville Asbestos Products include Roofings, Shingles, Brake Linings and Blocks, Insulations, Cements, Packings, Electrical Devices, Tapes, Clothes, Yarns—hundreds of products that enter every avenue of science and the useful arts.



JOHNS - MANVILLE

Serves in Conservation

CUNARD ANCHOR



PASSENGER AND FREIGHT SERVICE

BETWEEN

NEW YORK - BOSTON
PHILADELPHIA - BALTIMORE
PORTLAND, ME. - MONTREAL
AND
LIVERPOOL - LONDON
SOUTHAMPTON - BRISTOL
CHERBOURG - HAVRE
PLYMOUTH - GLASGOW
ANTWERP - ROTTERDAM
MEDITERRANEAN - LEVANT

FLEET

AQUITANIA
MAURETANIA
IMPERATOR
CARMANIA
CARONIA
ROYAL GEORGE
SAXONIA
PANNONIA
COLUMBIA

ROUND THE WORLD TOURS

THROUGH BOOKINGS
TO ALL PRINCIPAL
PORTS OF THE WORLD

SCHEDULES ON APPLICATION
21-24 STATE STREET, NEW YORK

OR BRANCHES AND AGENCIES

Our Fleets and the Future

(Continued from page 29)

ernment auspices and at Government expense, it is pointed out, is certain to postpone indefinitely private ownership of all but a few of the ships. American capital, unfamiliar as it is with shipping investments, needs to be interested in a national merchant marine as a public duty, and as the result of public effort. It is not believed that the public will enter into the spirit of the undertaking if the Government is ready to shoulder it.

Restraining the Government from operating its ships in competition with private operators means nothing, say the opponents of the measure, except controversy and failure. Confusion is inherent in the phraseology of this provision that "it shall not operate any of its ships in competition with regularly established American shipping lines." Is a Government line operating three boats a month to be put out of business by a private line that undertakes to operate but one? Or does the provision apply only to private lines already established?

Under the Jones bill merchant vessels operated by the Government are to be public vessels. It is asked if this will not be detrimental to their successful operation, by reason of the apprehension of foreigners that any claims that may arise can not be enforced in the ordinary way, but must be bound up in red tape, referred to diplomatic negotiations and made the subject of national, rather than individual, controversy?

And That Isn't All

THERE are other provisions of the measure that are sharply criticized, but perhaps none of the less important ones more than the very last, which directs the abrogation of parts of treaties restricting the right of the United States to impose discriminating duties on imports transported in American ships. This is too large a subject to be dealt with here. It must suffice to say that very few persons who consider the subject understandingly have any faith in this policy of discriminating duties on imports as an aid to an American merchant marine. If it be said that this policy was once the established policy of the country and that it was attended by an increased tonnage under the American flag, opponents of the policy would reply that import duties had little to do with the growth of our marine; that the policy after trial was abandoned, and that, conditions at the present time being so radically different from those that prevailed at the time the policy was in force, nothing can be predicated upon that earlier experience.

The Greene bill continues the Government in the marine insurance business, to which American marine insurance underwriters object, on the ground that if Government interference, or competition, is removed there will be in time adequate capital to underwrite the country's full proportion of marine risks. Like the Jones bill, it contemplates the Government operation of unsold ships, although it is to be done by the Shipping Board, without suggestion of any kind expressed in the bill as to how it shall be done, and is left merely as an incident of the powers granted by the Shipping Act.

The Greene bill also authorizes the expenditure of the net proceeds arising from the activities of the act that may accrue prior to July 1, 1920, in building and purchasing ships. But the bill does not contemplate any new organizations to deal with shipping



Sir Edward Jenner

The Modern Medical Idea— Sickness Prevention

Back in 1796, when he developed the vaccine treatment to combat smallpox, Edward Jenner helped to start the trend of medical thought in the new direction of *Sickness Prevention*.

Today anti-toxins, serums, vaccines and sanitation—all these check disease before it can gain hold. But constipation still remains one of the most devastating of all plagues, because by reducing the body's power of resistance it makes an easy victim of every and any disorder.

Leading medical authorities agree that 90% of disease has its origin in the intestinal tract—constipation.

Your physician will tell you that pills, salts, castor oil, mineral waters, etc., simply force the system and weaken the intestinal muscles.

Nujol is entirely different

Nujol prevents constipation because it softens the food waste and encourages the intestinal muscles to *act naturally*.

Nujol helps Nature establish easy, thorough bowel evacuation at regular intervals—the healthiest habit in the world. Get a bottle from your druggist today.

For valuable health booklet—
"Thirty Feet of Danger"—
free, write Nujol Laboratories,
Standard Oil Co. (New Jersey),
50 Broadway, New York.



Warning:

Nujol is sold only in sealed bottles bearing the Nujol Trade Mark as shown here. Beware of products represented to be "the same as Nujol". You may suffer from substitutes.

Nujol

REG. U.S. PAT. OFF.

For Constipation



NO DIRT NO BUGS MORE LIGHT

"Supreme" REFLECTOLYTE, A NEW LIGHTING UNIT embodying advanced ideas in Light-control and Diffusion.

THE SUPREME REFLECTOLYTE IS DISTINCTIVE in appearance. Even in its simplest form it is most attractive, and whether suspended or attached close to the ceiling, this pleasing quality is preserved.

ORNAMENTAL TYPES are supplied in two periods, "Classic" and "Gothic"; are highly artistic, and correct in every detail.

"Supreme" REFLECTOLYTES are made in a variety of sizes,—75 to 500 watts, and forty different styles—sufficient to carry out a harmonious scheme of illumination in Department and Retail Stores, Banks, Hotels, Public and Office Buildings, Theaters, Churches, Schools, Hospitals, and wherever the maximum of illumination is required.

CONSIDER THE ADVANTAGES of a Lighting Fixture, the light-source of which is entirely enclosed, excluding bugs and dust; which, while illuminating the ceiling, operates efficiently regardless of its height, shape or color; and which has a correctly designed reflector concealed within its structure that directs the maximum of full well-diffused light to the working plane,—this concealed reflector performing every function and achieving results equal to those obtained from lighting units with large exposed reflectors, and open or closed bowls.

THE CEILING IS ILLUMINATED sufficiently to bring out the artistic beauty of a room. The walls appear heightened, and the effect of greater space is achieved. The distribution of light in all directions is a further step towards the acquirement of true daylight atmosphere, by artificial means.

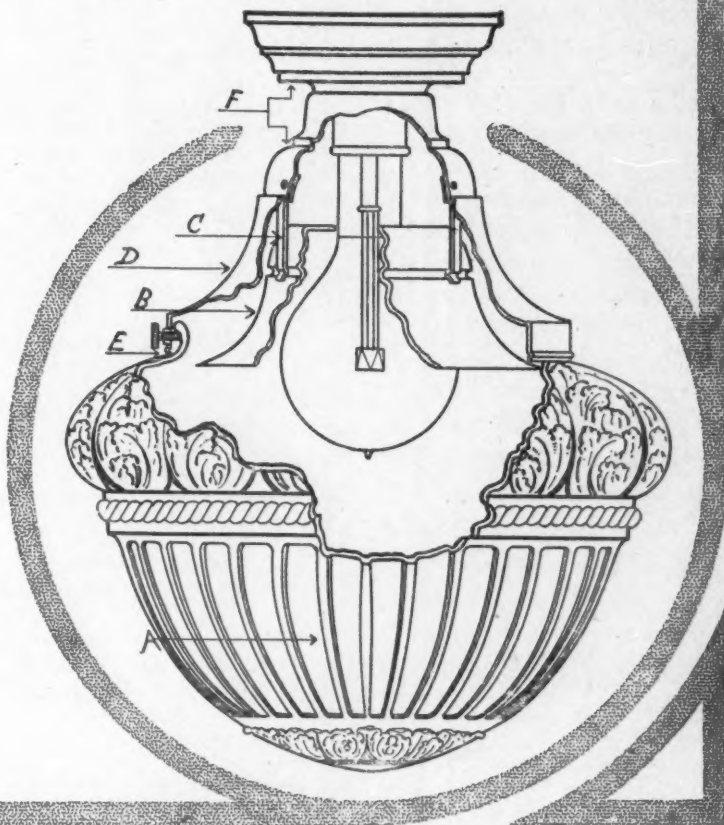
INTERESTING LITERATURE concerning this new Lighting Unit, sent on request.

It is apparent from the sectional drawing illustrated at right, that the "Supreme" REFLECTOLYTE has a number of exceptional features,—the translucent glass Urn (A) of beautiful outline and surface ornamentation in "Classic" and "Gothic" periods; the bell-shaped Metal Holder or Body (D) which supports the Urn and completes its graceful outline; the concealed steel reflector (B) with its white porcelain enameled reflecting surface fused on at a temperature which melts glass; and the spring fingers (C) which support the porcelain enameled reflector in a fixed position with relation to the lamp filament and the urn, and which permit instant removal and replacement of the reflector for cleaning.

The above are exclusive "Supreme" REFLECTOLYTE features, and cannot be duplicated.

The Reflectolyte Co.

910 Pine St. St. Louis, Mo., U. S. A.





THE Preferred Stocks of New England manufacturing enterprises are the preferred issues of today. They enable the purchasers to share remarkable prosperity in a section of the country which is recognized as the backbone of America's industrial strength.

We specialize in these high-grade New England Preferred Stocks. Our complete and fully equipped organization is always ready and willing to cheerfully assist you—without charge—in selecting or rearranging your investments.

"Personal Service to Investors" has been the foundation of our organization.

Ask us to mail you a copy of our current
Investment Suggestions
Booklet N. B. 291

Hollister White & Co.
INCORPORATED

50 Congress Street
Boston, Mass.

Springfield Providence Philadelphia

problems, nor does it contemplate the Government activities in the management of vessels that the Jones bill encourages, while the operations of ships by the Shipping Board is limited to a period of five years from the termination of the war by the Shipping Act.

The National Merchant Marine Association has prepared a bill that, it is understood, will be introduced in the Senate by Senator Ransdell, of Louisiana, who is president of the association. This bill follows rather closely the language and arrangement of the Greene bill, but it departs from it in several particulars that will commend themselves to the critics of the bills pending.

Under this proposed bill, that will undoubtedly be called the Ransdell bill, the sale of the ships, as provided in the Greene bill, must be accomplished within two years. In determining the price, in addition to the elements set forth in the Greene bill, the Shipping Board is to consider the "world market price," and sales, made by other governments since the armistice, and in respect of payment is not to require cash in excess of 25 per cent of the purchase price, nor require full payment to be made in less than fifteen years, while the deferred payments shall not carry interest beyond 5 per cent. One section of the bill enlarges the definition of the power conferred by the Greene bill in respect of the sale of unnecessary ships, by providing that all vessels of 6,000 tons deadweight and under may be sold to aliens, with the privilege of transferring registry, upon terms of payment applicable to all other ships that are to be sold. A new section provides that all unsold vessels shall, as far as practicable, be allocated for operation to the purchasers of vessels on the basis of the payment of a commission to the operators, and of the payment to the Shipping Board by the operators of the proportion of the consolidated net earnings of the vessels owned and allocated which the allocated tonnage bears to the total.

One section of the bill expresses a wide departure from recent policy of our Government in its relations with a merchant marine. It stipulates that purchasers of vessels operated in foreign trade shall be exempt in respect to the earnings of such vessels from all Federal excess profits taxes for a period of ten years, and that they shall be permitted to charge off 10 per cent of the net earnings of such vessels for depreciation, and deduct it in tax returns as operating expenses, provided that earnings equivalent to the excess profit taxes shall be invested by the purchasers in building tonnage in our shipyards.

What reception the proposition to remit excess taxes will receive in the public mind is problematical. Exemption of shipping and shipyards from taxation, however, is no new thing in this country. California exempts vessels above 50 tons from all but state taxes; Louisiana exempts steamship companies from all taxes, except wharfage and levee dues, during the first fifteen years of their existence, under certain conditions; New York exempts all its vessels engaged in foreign commerce. Two other states recognize this principle of tax exemption.

Under the National Chamber's Ocean Transportation Committee's plan, quasi public associations are to be organized. These associations are to serve without profit and act as intermediaries between the Government and the people who desire to acquire ships, so that there may be a fair apportionment. They will also render assistance in stimulating public interest in a merchant marine and in interesting capital.

Confidence in Our Nation's Future

WE have a clientele of more than 30,000 conservative bond buyers, who believe in the strength of this country, its institutions and industries, and who wish to invest their savings in the bonds of high-grade corporations for whose products there is a steady, growing demand at home and abroad.

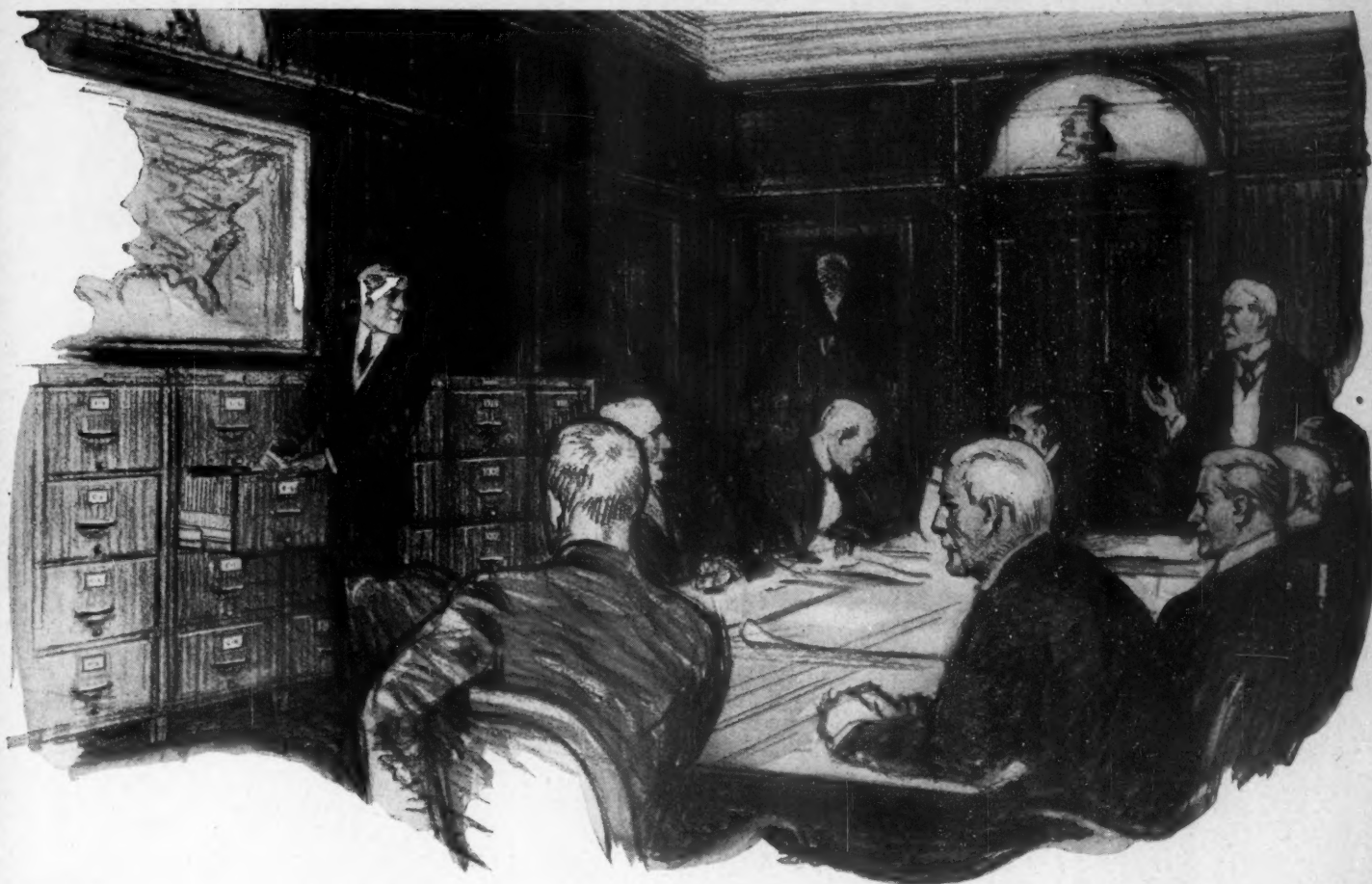
These investors rely on us to furnish them with safe securities, and for this reason we are always in the market to purchase first mortgage bond issues of firmly established industrial corporations, in amounts of \$500,000 upward, thus providing capital for business expansion, to strengthen cash resources or to retire maturing obligations.

Particulars of the *Straus Plan* of financing on request.

S.W. STRAUS & CO.
ESTABLISHED 1888 INCORPORATED

STRAUS BLDG—CHICAGO
150 BROADWAY—NEW YORK
CROCKER BLDG—SAN FRANCISCO

Thirty-eight years without loss to any investor



When the directors want a paper *they want it!*

4,000 "Y and E" Products

Wood Filing Cabinets
Steel Filing Cabinets
Efficiency Desks
Record Filing Safes
Filing System Supplies
Card Record Systems
The Direct Name System
Shannon Arch Files
Steel Shelving
Machine Accounting Trays

THE general manager thought he had brought all his data to the directors' meeting. He made his recommendations. The discussion started—and still another report was called for.

There it was —filed by the "Y and E" System in the "Y and E" Filing Cabinet against the wall. The general manager turned to it —instantly.

How would he have felt if the directors had been obliged to cool

their heels while a clerk hunted wildly through the files?

Emergencies like this don't happen every day but the Filing Cabinet that can prove itself even in an emergency is what you need for constant service.

Ask "Y and E" to suggest the "Y and E" System that will make your records available when and where you want them.

Our representative will explain this System Service at no cost to you.

Write on your business stationery for "Vertical Filing Down-to-Date" and "Steel Cabinets that Protect"



YAWMAN AND ERBE MFG. CO.

128 ST. PAUL ST.

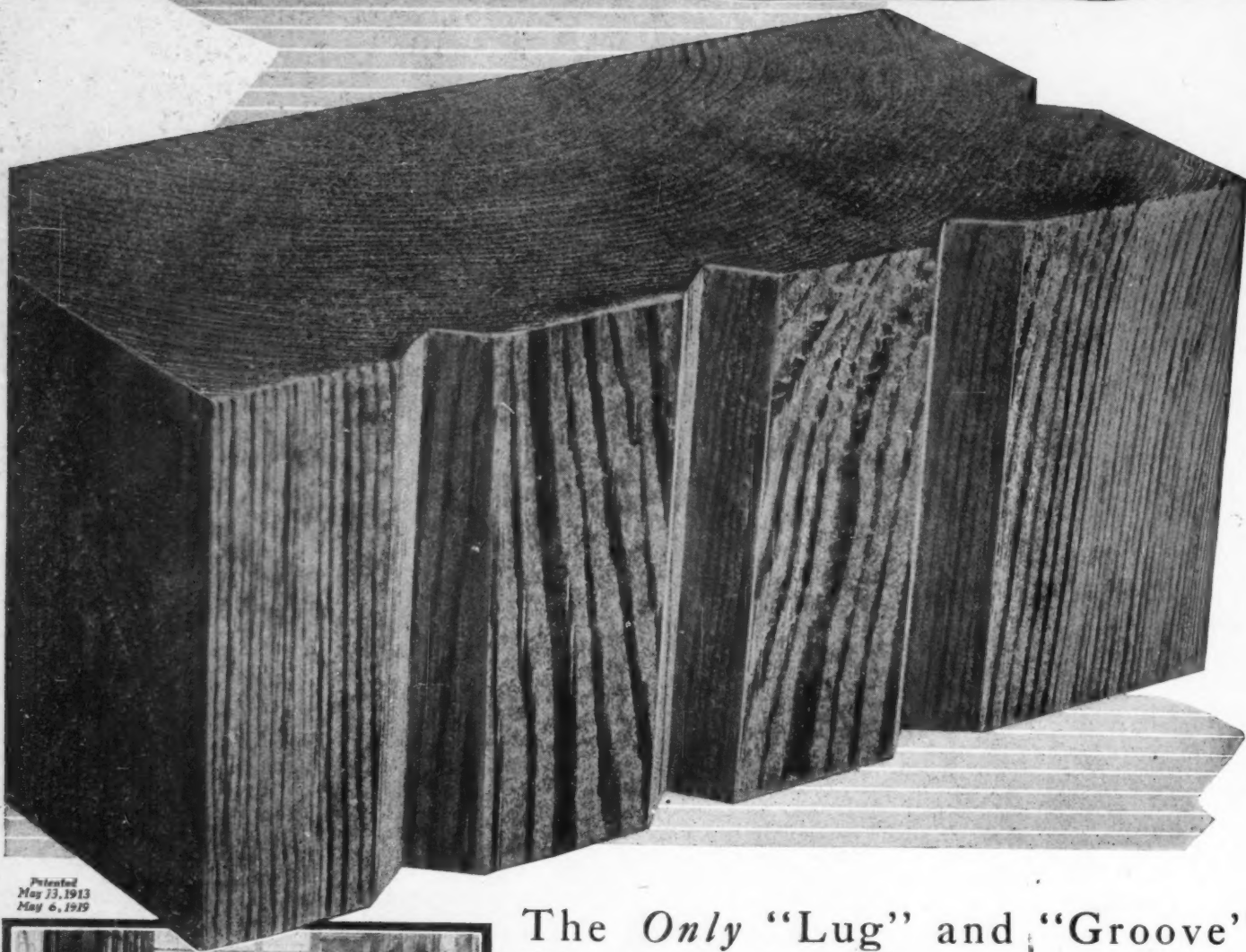
ROCHESTER, NEW YORK

One store or representative in every city
Makers of "Y and E" Filing Equipment and System Supplies

In Canada: The Office Specialty Mfg. Co., Ltd., Newmarket

KREOLITE WOOD BLOCK FLOORS

Outlast the Factory



Patented
May 13, 1913
May 6, 1919



Interior of the Pittsfield, Mass., Plant of The General Electric Company showing Kreolite Floors. This company has placed 21 separate orders for Kreolite Floors for various plants, making a total of 403,578 square feet of Kreolite Floors.

The Only "Lug" and "Groove" Wood Block Floors Are Kreolite

THE patented, grooved construction of Kreolite Wood Block Floors, obtainable in no other type or kind of floor, provides for permanently binding each block to the others.

These grooves permit the Kreolite Filler to penetrate to the full depth of the block and when laid on Kreolite Pitch securely keys the floor to the foundation.

The success of Kreolite Floors in factory use is evidenced by the unqualified endorsement of leading manufacturers. The General Electric Company has placed 21

separate orders or a total of 403,578 square feet of Kreolite Floors for installation in a number of their plants.

A letter from the Pittsfield, Massachusetts, plant states—"We have found the Jennison-Wright Company's blocks the most satisfactory of any we have used."

A request will bring our book on Kreolite Floors.

We will also be glad to have our factory floor engineers study your individual needs without any obligation.

Address all communications to the Toledo Office.

The Jennison-Wright Company, Toledo, Ohio

Branches: New York, Chicago, Philadelphia, St. Louis, Boston, Cleveland, Detroit, Toronto and other principal cities

The Trusts of Merrie England

(Continued from page 11)

selves to the exploitation of the public than to the improvement of trade organization and technique."

Associations for the regulation of trade are societies with constitution, rules, officers, and membership fees, in which membership firms retain their sovereignty, somewhat like states in the League of Nations, and which have a sort of Article X which binds all and sundry to stand together to hold up profits. Such associations undertake one or all of the following functions: Fix prices, regulate tenders for contract work, determine total production and allot portions of it, partition home or foreign markets, or both; and form alliances with foreign associations to partition world trade. Penalties are prescribed for over-production, and compensations for under-production.

A member firm, piqued at its penalization or suspicious or uncomfortable because of the restraints of the association, may cut itself free at any time, but always, of course, with forewarning that the Camorrist daggers of the faith-keeping brothers will lurk in every dark alley of trade. The trade association has no recourse at law against any of its members. Their agreements are like gambling debts in any British court.

Trade unions and trade associations have exactly the same character in a British court, as I have said before. A way found to get around this is to form a "limited liability company" properly constituted for the investment of all money received from members, "having as one of its articles of association a provision that the company may by a three-fourths majority vote determine that the shares of any member may be sold by the company to the other members at a nominal price.

The British association which only regulates output is, according to the report, a "more advanced type." It is said to have its difficulties in jealousies of members over partition of total output and in inability to gauge demand in advance.

There are many "pool specialists" among London accountants who act as secretaries of pools. They are the trusted output regulators. Usually the other members do not know the fractions of the total pool output as figured by the secretary from an audit of members' books. In some pools the penalty for over-production is only half the percentage of the compensation for under-production. Some pools have reserve funds fattened by deduction from penalties and compensations or wholly made up of percentage levies upon each member based on output or sales. Other pools have periodical revisions of output quotas. There are all sorts, and all flavors.

A pungently flavored one is the variety dealing with contract bids. Members submit their tenders first to their pool secretary, who registers all bids. If the municipality or concern inviting the tenders should write the lowest bidder that a contract with him is deeply desired but one other bidder had gone under his figures 10 per cent, which reduction would land him the job, why, he quickly learns from Mr. Secretary that he is the lowest bidder and he stands pat and sticks as tight as a government clerk. This has the wholly unexpected effect of holding up prices, but of course the only purpose of this pool arrangement is to protect its members against unfair bargain-driving!

(Concluded on page 84)



Where Upkeep Counts Most

Twelve million miles of wire, connecting cities, villages, farms; running under busy streets and across trackless prairies; these are the Bell Telephone's avenues of speech.

These twelve million miles of wire, throughout every foot of their length, must be kept electrically capable.

A few drops of water within a cable may cut off a thousand subscribers. A line snapped by storm may isolate a district. A wet leaf touching a wire may stop service. In most kinds of

work the lessening of efficiency means merely the lessening of service; but with the telephone, mechanical and electrical conditions must be practically perfect to insure operation.

The most delicate electrical currents in use are those of the telephone, and inspection must be ceaseless that the lines may be kept in constant readiness.

These conditions and costs must be met to provide this high standard of service needed and demanded by the American people.



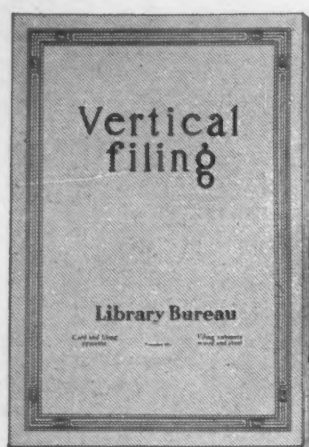
AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy

One System

Universal Service

B



This is a mighty fine catalog—

It is called "*Vertical Filing*" and it is "the most helpful book on filing ever written".

One particularly good chapter is on the Library Bureau Automatic index—the quickest, most dependable and most logical system of filing and *un-filing* ever devised.

Other chapter headings are:—"Correspondence or letter filing"—"Direct alphabetical correspondence filing"—"Numeric correspondence filing"—"Geographic or town filing"—"Subject filing"—"The central filing department"—"Transferring"—"Credit information filing"—"Invoice or bill filing"—"Purchase and sales records"—"Catalog filing"—"Drawings, blue-prints and photo filing"—"Bank filing"—"Legal filing"—etc.

Business executives and file clerks will find this a mighty handy catalog to have around for reference.

Send for catalog G 5018-B

Library Bureau

Card and filing systems

Filing cabinets wood and steel

Founded 1876

Boston 43 Federal st. New York 316 Broadway Philadelphia 910 Chestnut st. Chicago 6 N. Michigan ave.

Albany, 51 State street
Atlanta, 102 N. Pryor street
Baltimore, 14 Light street
Birmingham, 2205-6 Jefferson Co. Bank bldg.
Bridgeport, 999 Main street
Buffalo, 120-122 Pearl street
Cleveland, 243 Superior arcade
Columbus, 20 South Third street
Denver, 450-456 Gas and Electric bldg.
Des Moines, 202 Hubbell bldg.
Detroit, 65 Washington blvd.
Fall River, 29 Bedford street
Hartford, 75 Pearl street
Houston, 708 Main street

Indianapolis, 212 Merchants Bank bldg.
Kansas City, 215 Ozark bldg.
Milwaukee, 620 Caswell block
Minneapolis, 428 Second avenue, South
New Orleans, 512 Camp street
Newark, N. J., 31 Clinton street
Pittsburgh, 637-639 Oliver bldg.
Portland, Me., 665 Masonic bldg.
Providence, 79 Westminster street
Richmond, 1223-24 Mutual bldg.
St. Louis, 565-567 Arcade bldg.
St. Paul, 116 Endicott arcade
Scranton, 408 Connell bldg.

Springfield, Mass., Whitney bldg.
Syracuse, 405 Dillaye bldg.
Toledo, 620 Spitzer bldg.
Washington, 743 15th street, N.W.
Worcester, 718 State Mutual bldg.

DISTRIBUTORS

San Francisco, F. W. Wentworth & Co., 539 Market street
Los Angeles, McKee & Hughes, 440 Pacific Electric bldg.
Dallas, Parker Bros., 109 Field street

FOREIGN OFFICES
Birmingham Cardiff

London Manchester Glasgow Paris

The combine, as known in the report, is the combination of firms controlled by or answerable to a holding company. Combines are mostly found in the textile industries (bleaching, dyeing and spinning) and in the wallpaper and cement industries. The consolidation, the most complete form of merger, is the outright absorption of competing firms.

There are the beauties, the glittering galaxy of them, shy and demure in their ensemble before the footlights, perhaps a little thick in the ankles, but as gallant a chorus as ever danced the hornpipe along the Spanish Main.

And yet—well, anyway, the Nationalization Committee of the Federation of British Industries, under the heading "State Regulation of Monopolies," has subscribed to the following opinion:

"Although we are adverse to state management, we recognize that the public is entitled to some protection against possible exploitation by monopolies. As we have already indicated, we think the danger of this exploitation has been greatly exaggerated, but the fear of it exists and industry should, therefore, submit to such intervention on behalf of the state as may be necessary to remove the hostility to the idea of combination from certain sections of the public.

The Verdict

"IN our opinion, the principles on which state action should be based are generally indicated in the report of the Government Committee on Trusts, and we are prepared to support those recommendations of the committee, which throw on the Board of Trade the duty (1) of inquiring into any reasonable complaints which may be made with regard to the existence or action of any trade association or combine, and referring any question which may arise from their inquiry to a special tribunal for investigation and report, and (2) of recommending to the state action for the remedy of any grievances which the tribunal may find to be established.

"It will, however, be most important in carrying out any policy of this kind to safeguard the position of the export trade, and we regard it as essential:

"(1) That no restriction should be placed on British industry which will prejudice its position in the export trade.

"(2) That care should be taken not to publish or give extended circulation to any information regarding the activity of trade associations, or combines, which might be useful to their foreign competitors."

If Great Britain has been "an incubator of trusts," it was the war that raised the hatching temperature a little higher. Government contractors that were associated informally at meetings in the Ministry of Munitions became formally allied. Says the report: "Not only have numbers of existing listless bodies been galvanized into greater activity and enterprise, and the membership of others been increased, but many new associations have been formed, some at the instance of the government departments, since it was found easier to deal with a group than with separate firms. . . . One effect of the excess profits tax has been to encourage the buying up of unprofitable businesses by highly profitable concerns, for such purchases were in effect paid for by moneys which would otherwise have gone in excess profits duty to the revenue."

Will someone kindly call all this to the attention of Lincoln Steffens, Ray Stannard Baker and other big-game hunters?

AL
thous
for vi

1357 Ca

All Big Achievement



*comes from
some big man's*
Vision

John D. Rockefeller is said to have told one of his executives in the old days:—"Dream how to make more money for the Standard Oil Company." That's why the man who has built up the biggest fortune in the world paid big salaries to the man who could "dream" and only small salaries to the man always bent over his desk swamped with detail.

ALL big enterprise—all big achievement—is the result of **vision**. Men who read the *Nation's Business*, and who do the world's work are men who have strong *vision*. Fifty thousand such men—big, up-and-doing Executives—keep detail out of the way, and save time for *vision* with the—

Dictograph System of Interior Telephones

The Dictograph is the **last word** in interior telephones—it is **instant!**

With it you can communicate **instantly** with any associate or employee by simply throwing a key—you can give orders to **one or more employees** at the same time—confer simultaneously with any number of associates or employees **without requiring them to leave their desks**—in fact, every man in your organization can think clearer and more consecutively and,

therefore, **accomplish more in less time and with less effort.**

Hence, **production is speeded up** and maximum results secured in all departments.

Check the Coupon for a 5-minute demonstration, and let us show you on your own desk, without obligation, what the Dictograph will do for you—how it will simplify and expedite the work of every executive and employee in your organization—how it will give you more time for broad, constructive **thinking**.

DICTOGRAPH PRODUCTS CORPORATION
(Successors to General Acoustic Company)

C. H. LEHMAN, PRESIDENT

1357 Candler Bldg., 220 W. 42nd St. - - New York City

Check one of the squares, attach to your letter head and mail to
Dictograph Products Corporation
1357 Candler Bldg., 220 West 42nd Street, New York City

☐ 5-Minute Demonstration ☐ Free Booklet
Your Name _____



"Is Interest Return an Index of Safety?"

Do you judge the safety of a bond by its interest rate?

Are you making a needless sacrifice of income?

Make your money work for you but do not set it at a dangerous task.

If your money is not safely invested in sound securities and at the same time yielding you the best possible returns

—then you are at fault!

Our experience as investment bankers aided by careful expert examinations enables us to offer you freely the investment service which you need.

Thoughtful investors should write for our pamphlet "Is Interest Return an Index of Safety?" discussing the problems indicated above and analyzing a class of bonds yielding a higher rate of return than the average with equal or better security.

Ask for Pamphlet N B 315

A. H. Bickmore & Co.
111 BROADWAY, N.Y.

Back to Private Ownership

(Continued from page 19)

ger schedules missed that personal service when the Government took the railroads. They now have to depend on indifferent service by telephone, and they don't like it. Most complaints seemed to be built around efforts to obtain service and information by telephone. Patrons look for an improvement in this respect under private operation.

As courtesy, or lack of it, is a strong factor in the establishment of the relations which should exist between the railroads and their patrons in order to bring the most satisfactory results, it might not be amiss to call attention to the fact that approximately 125,000 railroad employees were called into military service, their places being filled by inexperienced men and women. These new workers had to learn the railroad business, and many of them, knowing that their employment was temporary, did not take the pains either to become efficient, or to be attentive in their dealing with the public.

A thought in the mind of citizens, especially in the undeveloped or partly developed states, is of railroad expansion. It is felt in many localities that new lines should be constructed, but questions put to railroad corporation officers and to railroad builders usually bring unfavorable answers, to the effect that railroad investments, under the existing rates of return, are not attractive, and that obtaining capital for expansion would be exceedingly difficult.

It is evident that Congress also has this phase of the situation in mind, for both the Cummins and the Esch bills contain plans to provide for adequate credit for the railroads.

The Cummins bill calls for the creation of two funds: (a) An individual reserve fund drawn by each road from its excess earnings to support its own credit. (b) The creation by all prosperous roads of a general contingent fund drawn from their excess earnings to support the credit of the railroads of the country as a whole.

The Esch bill provides for the creation by the government of a revolving fund of \$250,000,000 from which carriers may obtain during the first two years of corporate operation loans bearing 6 per cent interest, and maturing in five years.

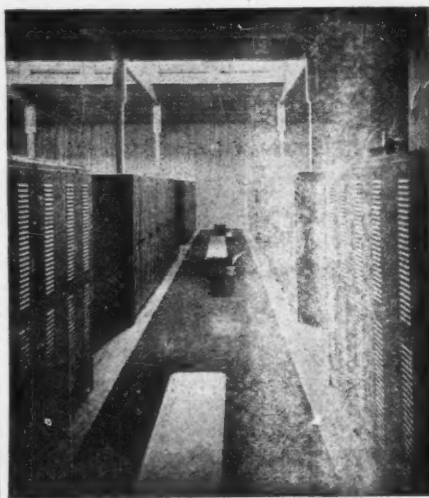
Both bills provide for equalizing the revenues of the rich and the poor roads by means of consolidations brought about under governmental authority.

An effort is thus made through the provisions outlined to make railroad securities attractive to investors. Both bills provide that for six months after Federal operation ends, the government shall guarantee to all railroads an operating income equal to the standard return paid for the same period during Federal operation.

An Error

ON page 71 of THE NATION'S BUSINESS for December, it was stated that the American Chamber of Commerce for Mexico is the largest chamber of commerce in any foreign country, with a total of 439 members. This has been pointed out as an error. Records show that the American Chamber of Commerce in Italy, with offices at Milan, has 675 members, the American Chamber of Commerce in France has 750 members, and the American Chamber of Commerce in London had 1,000 members in August, 1919.

DURAND STEEL LOCKERS



TO say "Durand" is just another way of describing the highest standard in steel locker manufacture.

In every line of manufacture there is one name that has won enviable distinction. In purchasing steel lockers, steel shelving or bins, "Durand" is the mark of generally acknowledged excellence.

Consult with us regarding your requirements in connection with Durand Steel Lockers or Shelving. Catalogue of either on application.



Durand Steel Locker Co.

1511 Dearborn Bk. Bldg. 911 Vanderbilt Bldg.
CHICAGO NEW YORK